



MathStep 4



Students' Book

Solutions

Unit 1

Numbers to 100 000

Recap Exercise

1. Fill in the blanks.

- a $2412 = 4$ thousands 4 hundreds 1 ten and 2 ones.
- b $3182 = 3$ thousands 1 hundred 8 tens and 2 ones.
- c $1661 = 1$ thousand 6 hundreds 6 tens and 2 ones.
- d $2559 = 2$ thousands 5 hundreds 5 tens and 9 ones.
- e $4273 = 4$ thousands 2 hundreds 7 tens and 3 ones.

2. Compare the numbers. Write < or > in the box.

a	2456	>	1247	b	2384	<	3335
c	8023	>	4788	d	1220	<	1360
e	6420	>	3609	f	2501	<	3500

3. Arrange the numbers in ascending order.

a	3493	2159	1357	4609	3520
	1537	2159	3493	3520	4609

b	2496	3548	1632	4753	2724
	1632	2496	2724	3548	4753

c	2600	1231	4175	3303	3888
	1231	2600	3303	3888	4175

Remember:

Always start comparing from the greatest place value to put numbers in ascending or descending order.

4. Arrange the numbers in descending order.

a	3650	1256	4182	9445	1275
	1256	1275	3650	4182	9445

b	2845	6428	1013	3246	5029
	6428	5029	3246	2845	6428

c	4219	3440	1626	5589	3450
	5589	4219	3450	3440	1626

5. Convert the following to Roman numbers.

a $14 = 40$

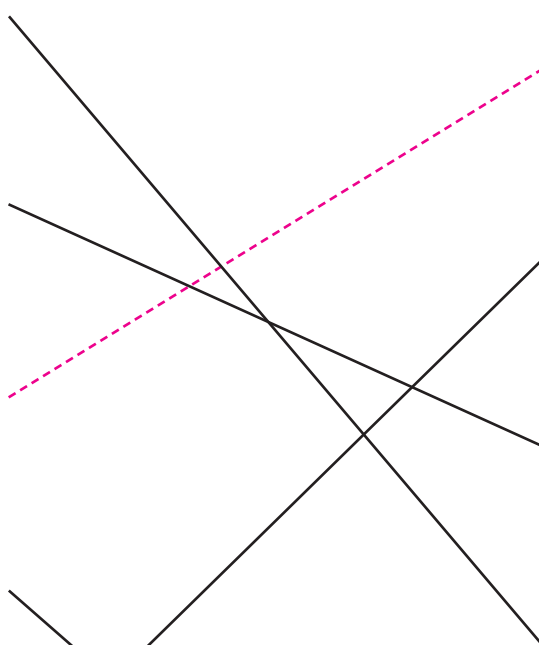
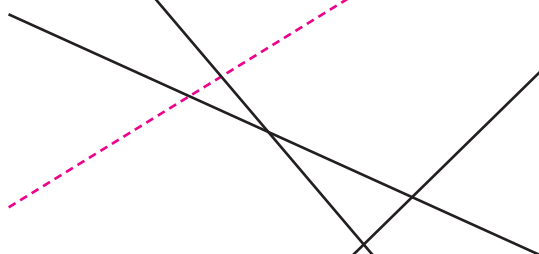
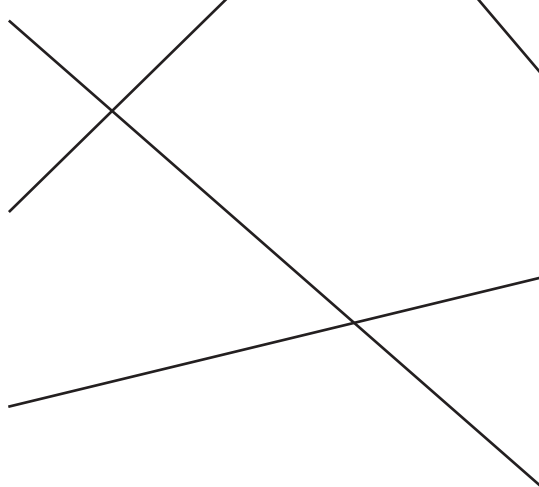


b $11 = 70$

c $8 = 270$

d $15 = 330$

Exercise 1

1. Match the numbers to the correct words.

a)	56 516		forty-one thousand two hundred and sixty-eight
b)	24 311		thirty-five thousand four hundred and five
c)	41 268		twenty-four thousand three hundred and eleven
d)	17 043		fifty-six thousand five hundred and sixteen
e)	35 405		fourteen thousand seven hundred and twenty-one
f)	14 721		seventeen thousand and forty-three

2. Count the counters. Write in numbers and words.

a)	
	12 422 <u>twelve thousand four hundred and twenty-two</u>
b)	
	34456 <u>thirty-four thousand four hundred and fifty six</u>
c)	
	23104 <u>twenty-three thousand one hundred and four</u>

3. Fill in the blanks.

a) $10\ 264 =$ 1 ten thousand 0 thousands 2 hundreds 6 tens and 4 ones.

b) $13\ 619 =$ 1 ten thousand 3 thousands 6 hundreds
1 ten and 9 ones.

c) $27\ 410 =$ 2 ten thousands 7 thousands 4 hundreds
1 tens and 0 ones.

d) $36\ 047 =$ 3 ten thousands 6 thousands 0 hundreds
4 tens and 7 ones.

e) $73\ 002 =$ 7 ten thousands 3 thousands 0 hundreds
0 tens and 2 ones.

4. Fill in the blanks.

a)

2	4	1	2	7
---	---	---	---	---

The digit 2 is in the ten thousands place.

The digit 4 is in the thousands place.

The digit 1 is in the hundreds place.

The digit 2 is in the tens place.

The digit 7 is in the ones place.

b)

1	5	7	0	4
---	---	---	---	---

The digit 0 is in the tens place.

The digit 4 is in the ones place.

The digit 1 is in the ten thousands place.

The digit 5 is in the thousands place.

The digit 7 is in the hundreds place.

c)

8	0	6	3	5
---	---	---	---	---

The digit 6 is in the hundreds place.

The digit 0 is in the thousands place.

The digit 6 is in the tens place.

The digit 3 is in the ten thousands place.

The digit 5 is in the ones place.

Exercise 2

5. Write the number in words.

a) 21 457 twenty-one thousand four hundred and
fifty seven

b) 95 330 ninety-five thousand three hundred and
thirty

c) 60 308 sixty thousand three hundred and
eight

d) 48 902 forty eight thousand nine hundred and
two

e) 2221 twenty-two thousand two hundred and
twenty one

f) 34205 thirty four thousand two hundred and
five

6. Convert the following word statements into numbers.

a) Seventy-five thousand, five hundred and eight 75508

b) Eighty-six thousand and fifty five 86055

c) Fifty-four thousand two hundred and sixty 54260

d) Thirty-eight thousand seven hundred and fifty-five 38755

e) Forty-nine thousand, four hundred and sixty-two 49462

f) Sixty thousand seven hundred and one 60701

Exercise 3

1. Compare the numbers. Write $<$ or $>$ in the box.

a)	12 400	$<$	13 014	b)	21 247	$>$	15 869
c)	25 625	$>$	22 158	d)	16 258	$>$	13 456
e)	33 750	$>$	31 159	f)	42 115	$<$	42 789
g)	24 239	$>$	20 107	h)	53 317	$>$	53 004

2. What number is ...

a) 1 more than 16 258 16259

b) 10 less than 19 472 19462

c) 100 more than 10 489 10589

d) 1000 less than 75 149 74149

e) 10 000 more than 49 423 37423

Remember:

1 more or 1 less - check the ones place.
 10 more or 10 less - check the tens place.
 100 more or 100 less - check the hundreds place.
 1000 more or 1000 less - check the thousands place.

3. Arrange the numbers in ascending order.

a)	45 321	88 715	25 148	13 496
	13 796	25 148	45 321	88 715

b)	12 697	26 159	31 422	21 449
	12 697	21 449	26 159	31 422

c)	33 196	25 149	26 743	31 770
	25 149	26 743	31 770	33 196

d)	28 097	28 207	29 700	27 980
	27 980	28 097	28 207	29 700

4. Arrange the numbers in descending order.

a)	21 090	36 191	11 308	34 749
	11 308	21 090	34 749	36 191

b)	16 513	24 415	61 269	31 745
	61 269	31 745	24 415	16 513

c)	22 550	32 569	40 653	15 745
	40 653	32 569	22 550	15 745

d)	23 900	30 502	71 990	24 666
	71 990	30 502	24 666	23 900

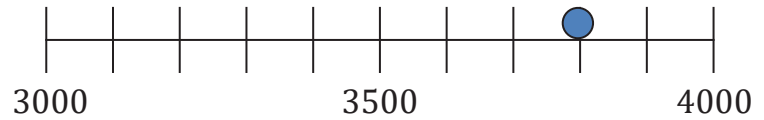
Remember:

Always start comparing from the greatest place value.

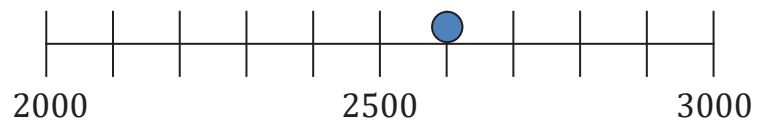
Exercise 4

1. Round off the numbers to the nearest thousand. Use the number line.

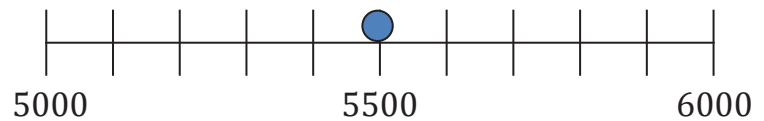
a) $3800 \approx 4000$



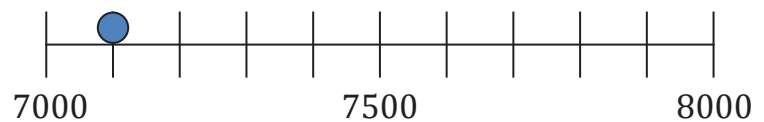
b) $2600 \approx 3000$



c) $5500 \approx 6000$



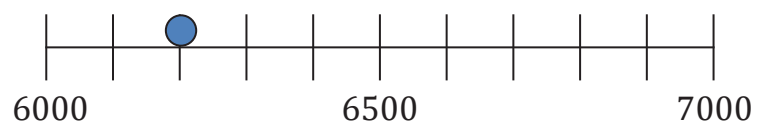
d) $7100 \approx 7000$



e) $4900 \approx 5000$



d) $6200 \approx 6000$



2. Round off the numbers to the nearest thousand.

a) 1323 \approx 1000	e) 2716 \approx 3000
b) 1893 \approx 2000	f) 2540 \approx 3000
c) 3119 \approx 3000	g) 4617 \approx 5000
d) 3677 \approx 4000	h) 4063 \approx 4000

2. Look at the numbers. Round them off to the nearest 10, 100 and 1000.

	whole numbers	rounded off to nearest 10	rounded off to nearest 100	rounded off to nearest 1000
a)	2172	2170	2200	2000
b)	3283	3280	3300	3000
c)	4517	4520	4500	5000
d)	2648	2650	2600	3000
e)	5708	5710	5700	6000
f)	6063	6060	6100	6000
g)	5549	5550	5500	5000
h)	7725	7730	7700	8000

**Unit
2**

Addition and Subtraction

Recap Exercise

Recap – Addition within 10 000

1. Rida has 140 buttons. Hiba has 268 buttons. How many buttons do the girls have altogether?

The illustration shows 14 jars of buttons (3 full jars of 10 buttons each and 11 jars of 4 buttons each) and 268 individual buttons. To the right is a grid for addition:

H	T	O
1	4	0
2	6	8
4	0	8

$$140 + 268 = 408$$

The girls have 408 buttons altogether.

2. Mr Khan sold 1306 oranges yesterday. He sold 1435 oranges on today. How many oranges did he sell on both of the days?



Th	H	T	O
1	3	0	6
1	4	3	5
2	7	4	1

$$1306 + 1435 = 2741$$

Mr Khan sold 2741 apples on the two days.

3. A factory produces 2460 bottles of mango juice and 2900 bottles of grape juice. How many bottles of juice does it produce altogether?



The factory produces mango juice bottles = 2460

The factory produces grapes juice bottles = 2900

$$2460 + 2900 = 5360$$

The factory produces 5360 bottles of juice altogether.

Th	H	T	O
2	4	6	0
+	2	9	0
5	3	6	0

4. Add.

a)

Th	H	T	O
4	3	8	1
+	2	4	6
4	6	2	7

b)

Th	H	T	O
5	3	1	9
+	2	4	3
6	5	6	2

c)

Th	H	T	O
2	3	7	1
+	6	2	4
8	6	1	4

d)

Th	H	T	O
3	6	9	1
+	1	2	9
4	9	4	0

Exercise 1

1. Add the given numbers. The first has been solved for you.

TTh	Th	H	T	O
1	5	6	3	2
+	1	0	4	6
1	6	6	4	8

TTh	Th	H	T	O
1	7	6	3	2
+	2	3	3	5
1	9	9	6	9

TTh	Th	H	T	O
2	4	0	3	2
+	2	2	3	5
4	6	3	8	2

TTh	Th	H	T	O
4	0	1	3	5
+	1	2	7	6
5	2	8	9	6

TTh	Th	H	T	O
2	6	5	4	5
+	3	2	7	1
5	9	2	5	8

TTh	Th	H	T	O
5	4	4	0	3
+	2	0	2	8
7	4	6	8	6

TTh	Th	H	T	O
3	7	8	3	1
+	1	3	5	8
5	1	4	1	5

TTh	Th	H	T	O
1	2	9	3	6
+	1	5	9	0
2	8	8	4	1

$$\begin{array}{r}
 \text{TTh Th H T O} \\
 4 \quad 2 \quad 8 \quad 0 \quad 5 \\
 + 3 \quad 5 \quad 7 \quad 8 \quad 5 \\
 \hline
 7 \quad 8 \quad 5 \quad 9 \quad 0
 \end{array}$$

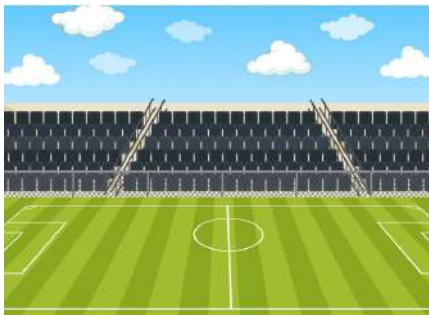
$$\begin{array}{r}
 \text{TTh Th H T O} \\
 1 \quad 9 \quad 8 \quad 7 \quad 2 \\
 + 6 \quad 1 \quad 0 \quad 5 \quad 9 \\
 \hline
 8 \quad 0 \quad 9 \quad 3 \quad 1
 \end{array}$$

$$\begin{array}{r}
 \text{TTh Th H T O} \\
 3 \quad 6 \quad 0 \quad 8 \quad 4 \\
 + 3 \quad 7 \quad 5 \quad 8 \quad 1 \\
 \hline
 7 \quad 3 \quad 6 \quad 6 \quad 5
 \end{array}$$

$$\begin{array}{r}
 \text{TTh Th H T O} \\
 4 \quad 5 \quad 0 \quad 9 \quad 3 \\
 + 4 \quad 8 \quad 0 \quad 8 \quad 3 \\
 \hline
 9 \quad 3 \quad 1 \quad 7 \quad 6
 \end{array}$$

Word Problems

1. 16 249 people watched a football match at a stadium on Saturday. 12 130 people watched a football match at the stadium on Sunday. How many people were at the stadium on two days?



$$\begin{array}{r}
 \text{TTh Th H T O} \\
 1 \quad 6 \quad 2 \quad 4 \quad 9 \\
 + 1 \quad 2 \quad 1 \quad 3 \quad 0 \\
 \hline
 2 \quad 8 \quad 3 \quad 7 \quad 9
 \end{array}$$

People who watched the match on Saturday = 16249

People who watched the match on Sunday = 12130

$$16\,249 + 12\,130 = 28\,379$$

There were 28379 people at the stadium on the two days.

2. A supermarket sells 21 350 bottles of orange juice and 29 760 bottles of apple juice. How many bottles of juice does the supermarket sell altogether?



No. of bottles of orange juice sold = 21350

No. of bottles of apple juice sold = 29760

$$21\,350 + 29\,760 = 51\,110$$

The supermarket sells 51110 bottles of juice altogether.

TTh	Th	H	T	O
2	1	3	5	0
+	2	9	7	6
	5	1	1	0

Exercise 2

1. Aamir sells 15 378 fruits on Monday. He sells 21 071 fruits on Tuesday. How many fruits does he sell altogether?



Aamir sells 36449 fruits altogether.

TTh	Th	H	T	O
1	5	3	7	8
+	2	1	0	7
	3	6	4	4
				9

2. There were 14 380 adults and 21 850 children at an amusement park on Sunday. How people were there at the park altogether?



TTh	Th	H	T	O
1	4	3	8	0
+	2	1	8	5
3	6	2	3	0

There were 36230 people altogether.

3. There are 18 500 girls and 26 840 boys in a school. How many children are there altogether?



TTh	Th	H	T	O
1	8	5	0	0
+	2	6	8	4
4	5	3	4	0

There are 45340 children altogether.

Recap – Subtraction within 10 000

1. Nadeem has 258 marbles. He gives 103 marbles to his cousin. How many marbles does he have left?



258

-

103

=

155

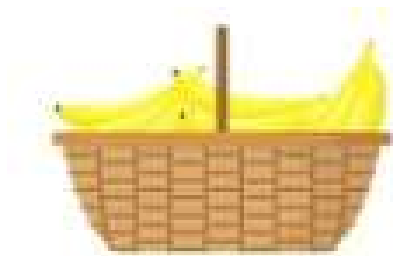


H	T	O
2	5	8
-		
1	0	3

1	5	5

Nadeem has 155 marbles left.

2. Mr Ahmed has 2500 bananas. He sells 1825 bananas. How many bananas does he have left?



2500

-

1825

=

675

Th	H	T	O
2	5	0	0
-			
1	8	2	5

	6	7	5

Mr Ahmed has 675 bananas left.

3. A factory produces 3000 bottles of milk. It supplies 2550 bottles to shops in the city. How many bottles of milk are left in the factory?



$$3000 - 2550 = 450$$

Th	H	T	O
3	0	0	0
-	2	5	5
0	4	5	0

There are **450** bottles of milk left in the factory.

4. Subtract.

a)

Th	H	T	O
2	7	8	6
-	2	4	6
2	5	4	0

b)

Th	H	T	O
5	6	1	8
-	1	2	5
4	3	6	1

c)

Th	H	T	O
7	5	6	1
-	3	2	4
4	3	1	8

d)

Th	H	T	O
8	9	7	1
-	4	2	3
4	7	3	5

Exercise 3

1. Subtract the given numbers. The first one has been solved for you.

TTh	Th	H	T	O
2	3	6	3	5
-		1	3	1
2	2	3	2	3

TTh	Th	H	T	O
1	7	6	8	5
-		3	8	1
	3	8	7	2

TTh	Th	H	T	O
3	5	7	4	5
-	1	2	3	1
2	3	4	3	5

TTh	Th	H	T	O
4	8	9	6	2
-	1	2	7	3
3	6	2	3	1

TTh	Th	H	T	O
5	5	5	4	8
-	3	2	1	3
2	3	4	1	8

TTh	Th	H	T	O
6	2	4	0	4
-	2	5	2	7
3	7	1	3	1

TTh	Th	H	T	O
5	7	8	3	1
-	3	3	1	5
2	4	6	7	3

TTh	Th	H	T	O
4	8	9	4	6
-	4	5	2	1
0	3	7	3	3

TTh	Th	H	T	O
7	2	7	8	5
-	4	5	4	3
2	7	3	5	0

TTh	Th	H	T	O
1	7	6	8	5
-		3	8	1
1	3	8	7	2

$$\begin{array}{r}
 \text{k) } \quad \begin{array}{cccccc}
 & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 6 & 4 & 0 & 7 & 4 \\
 - & 4 & 3 & 5 & 2 & 0 \\
 \hline
 & \square & \square & \square & \square & \square \\
 \hline
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{i) } \quad \begin{array}{cccccc}
 & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 9 & 5 & 0 & 9 & 3 \\
 - & 7 & 6 & 5 & 5 & 3 \\
 \hline
 & \square & \square & \square & \square & \square \\
 \hline
 \end{array}
 \end{array}$$

Word Problems

1. 14 589 people visited an amusement park. Out of them 11 235 were adults. How many children were there in the park?



$$\begin{array}{r}
 \begin{array}{cccccc}
 & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 1 & 4 & 5 & 8 & 9 \\
 - & 1 & 1 & 2 & 3 & 5 \\
 \hline
 & & 3 & 3 & 5 & 4 \\
 \hline
 \end{array}
 \end{array}$$

$$14\,589 - 11\,235 = 3354$$

There were 3354 children in the park.

2. A shop has 25 000 bottles of milk. It sells 14 620 bottles during the week. How many bottles of milk are in the shop?



$$\begin{array}{r}
 \begin{array}{cccccc}
 & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 2 & 5 & 0 & 0 & 0 \\
 - & 1 & 4 & 6 & 2 & 0 \\
 \hline
 & 1 & 0 & 3 & 8 & 0 \\
 \hline
 \end{array}
 \end{array}$$

$$25\,000 - 14\,620 = 10380$$

There are 10380 bottles of milk in the shop.

Exercise 4

1. There were 16 000 people in a town. 5146 people left the town . How many people were remaining in the town?

There were **10854** people remaining in the town.

TTh	Th	H	T	O
1	7	6	8	5
—	3	8	1	3
1	3	8	7	2

2. A factory produces 26 400 sheets of paper. 18 450 sheets are used to print books. How many sheets of paper are left in the factory?

There are **7950** sheets of paper left in the factory.

TTh	Th	H	T	O
2	6	4	0	0
—	1	8	4	5
0	7	9	5	0

3. There are 25 000 blue and red balls in a carton. 17 400 balls are blue. How many red balls are there?

There are **7600** red balls.

TTh	Th	H	T	O
2	5	0	0	0
—	1	7	4	0
0	7	6	0	0

Unit 3

Multiplication and Division

Recap Exercise

1. Multiply the following.

a **T O**

$$\begin{array}{r} 16 \\ \times 3 \\ \hline 48 \end{array}$$

b **T O**

$$\begin{array}{r} 27 \\ \times 6 \\ \hline 162 \end{array}$$

c **T O**

$$\begin{array}{r} 31 \\ \times 5 \\ \hline 155 \end{array}$$

d **T O**

$$\begin{array}{r} 27 \\ \times 8 \\ \hline 216 \end{array}$$

e **T O**

$$\begin{array}{r} 29 \\ \times 2 \\ \hline 58 \end{array}$$

f **T O**

$$\begin{array}{r} 35 \\ \times 7 \\ \hline 245 \end{array}$$

g **T O**

$$\begin{array}{r} 43 \\ \times 9 \\ \hline 387 \end{array}$$

2. Sami has 7 boxes. Each box has 12 balls. How many balls are there altogether?

There are **84** balls altogether.

T O

$$\begin{array}{r} 12 \\ \times 7 \\ \hline 84 \end{array}$$

3. Rida buys 28 boxes of cupcakes. Each box has 8 cupcakes. How many cupcakes does she buy altogether?

Rida buys **224** cupcakes altogether.

T O

$$\begin{array}{r} 28 \\ \times 8 \\ \hline 224 \end{array}$$

Exercise 1

1. Multiply the following.

$$\begin{array}{r} \text{a) } 25 \\ \times 13 \\ \hline 175 \\ 250 \\ \hline 325 \end{array}$$

$$\begin{array}{r} \text{b) } 67 \\ \times 26 \\ \hline 402 \\ + 1340 \\ \hline 1742 \end{array}$$

$$\begin{array}{r} \text{c) } 80 \\ \times 35 \\ \hline 400 \\ + 2400 \\ \hline 2800 \end{array}$$

$$\begin{array}{r} \text{d) } 539 \\ \times 2 \\ \hline 1078 \end{array}$$

$$\begin{array}{r} \text{e) } 607 \\ \times 8 \\ \hline 4856 \end{array}$$

$$\begin{array}{r} \text{f) } 457 \\ \times 16 \\ \hline 2742 \\ + 4570 \\ \hline 7312 \end{array}$$

$$\begin{array}{r} \text{g) } 174 \\ \times 37 \\ \hline 1218 \\ + 5220 \\ \hline 6438 \end{array}$$

$$\begin{array}{r} \text{h) } 543 \\ \times 12 \\ \hline 1086 \\ + 5430 \\ \hline 6516 \end{array}$$

$$\begin{array}{r} \text{i) } 476 \\ \times 5 \\ \hline 2380 \end{array}$$

$$\begin{array}{r} \text{j) } 1826 \\ \times 6 \\ \hline 10956 \end{array}$$

$$\begin{array}{r} \text{k) } 2608 \\ \times 3 \\ \hline 7824 \end{array}$$

$$\begin{array}{r} \text{l) } 1256 \\ \times 4 \\ \hline 5024 \end{array}$$

$$\begin{array}{r} \text{m) } 1103 \\ \times 14 \\ \hline 4412 \\ + 11030 \\ \hline 15442 \end{array}$$

$$\begin{array}{r} \text{n) } 2431 \\ \times 26 \\ \hline 14586 \\ + 48620 \\ \hline 63206 \end{array}$$

$$\begin{array}{r} \text{o) } 3521 \\ \times 11 \\ \hline 3521 \\ + 35210 \\ \hline 38731 \end{array}$$

$$\begin{array}{r} \text{p) } 3615 \\ \times 15 \\ \hline 18075 \\ + 36150 \\ \hline 54225 \end{array}$$

$$\begin{array}{r} \text{q) } 330 \\ \times 114 \\ \hline 1320 \\ 3300 \\ + 33000 \\ \hline 37620 \end{array}$$

$$\begin{array}{r}
 \text{r)} \quad 2015 \\
 \times \quad 335 \\
 \hline
 10075 \\
 60450 \\
 + 604500 \\
 \hline
 675025
 \end{array}$$

$$\begin{array}{r}
 \text{s)} \quad 4117 \\
 \times \quad 213 \\
 \hline
 12351 \\
 41170 \\
 + 823400 \\
 \hline
 876921
 \end{array}$$

$$\begin{array}{r}
 \text{t)} \quad 605 \\
 \times \quad 107 \\
 \hline
 4235 \\
 0000 \\
 + 60500 \\
 \hline
 64735
 \end{array}$$

$$\begin{array}{r}
 \text{u)} \quad 1008 \\
 \times \quad 673 \\
 \hline
 3024 \\
 70560 \\
 + 604800 \\
 \hline
 678384
 \end{array}$$

$$\begin{array}{r}
 \text{v)} \quad 1570 \\
 \times \quad 293 \\
 \hline
 14710 \\
 141300 \\
 + 314000 \\
 \hline
 460010
 \end{array}$$

$$\begin{array}{r}
 \text{w)} \quad 522 \\
 \times \quad 310 \\
 \hline
 000 \\
 15220 \\
 + 156600 \\
 \hline
 161820
 \end{array}$$

Exercise 2

1. Amaan cycles 23 metres every day. How many metres does he cycle in 25 day?

Amaan cycles **575** m in 25 days.

$$\begin{array}{r}
 \text{H T O} \\
 23 \\
 \times \quad 25 \\
 \hline
 115 \\
 + 460 \\
 \hline
 575
 \end{array}$$

2. Rida ordered 26 pizzas for a party. Each pizza has 8 slices. How many slices are there altogether?

There are **208** slices altogether.

$$\begin{array}{r}
 \text{H T O} \\
 26 \\
 \times \quad 8 \\
 \hline
 208
 \end{array}$$

3. There are 1300 packets of chips in a carton. A shop orders 24 cartons. How many packets of chips are there altogether?

	Th	H	T	O	
	1	3	0	0	
	×			2	4
	1	5	2	0	0
+	2	6	0	0	0
	3	1	2	0	0

There are **31200** packets of chips altogether.

4. There are 1560 packets of juice in a box. Shariq orders 250 boxes. How many packets of juice are there altogether?

	Th	H	T	O		
	1	5	6	0		
	×			2	5	0
	0	0	0	0		
	7	8	0	0	0	
+ 3	1	2	0	0	0	
	3	9	0	0	0	

There are **208** packets of juice altogether.

5. Taha bought 3 televisions. The price of each television was Rs. 18400. How much did he spend altogether?

	TTh	Th	H	T	O
	1	8	4	0	0
	×				3
	5	5	2	0	0

He spent **55200** altogether.

6. A factory produces 11400 tennis balls in one day. How many tennis ball does it produce in 12 days?

	TTh	Th	H	T	O	
	1	1	4	0	0	
	×				1	2
	2	2	8	0	0	
+ 1	1	4	0	0	0	
	1	3	6	8	0	0

It produces **136800** tennis balls.

6. There are 15500 books in a store. How many books are there in 120 stores?

There are **1860000** books.

	TTh	Th	H	T	O
	1	5	5	0	0
×			1	2	0
	0	0	0	0	0
	3	1	0	0	0
+	1	5	5	0	0
	1	8	6	0	0

Recap

1. Divide each of the following:

a
$$\begin{array}{r} 15 \\ 5 \overline{) 75} \\ \underline{5} \\ 25 \\ \underline{25} \\ 0 \end{array}$$

b
$$\begin{array}{r} 28 \\ 3 \overline{) 84} \\ \underline{6} \\ 24 \\ \underline{24} \\ 0 \end{array}$$

c
$$\begin{array}{r} 48 \\ 2 \overline{) 96} \\ \underline{8} \\ 16 \\ \underline{16} \\ 0 \end{array}$$

d
$$\begin{array}{r} 18 \\ 4 \overline{) 72} \\ \underline{4} \\ 32 \\ \underline{32} \\ 0 \end{array}$$

e
$$\begin{array}{r} 15 \\ 6 \overline{) 90} \\ \underline{6} \\ 30 \\ \underline{30} \\ 0 \end{array}$$

f
$$\begin{array}{r} 14 \\ 7 \overline{) 96} \\ \underline{7} \\ 28 \\ \underline{28} \\ 0 \end{array}$$

2. Sana has 56 necklaces. She puts them equally in seven boxes. How many necklaces are there in each box?

56 ÷ **7** = **8**

There are **8** necklaces in each box.



$$\begin{array}{r} 8 \\ 7 \overline{) 56} \\ \underline{56} \\ 0 \end{array}$$

3. Sabih has 78 marbles. He puts them equally in 6 bags. How many marbles are there in each bag?



$$\begin{array}{r} 13 \\ 6 \overline{) 78} \\ \underline{6} \\ 18 \\ \underline{18} \\ 0 \end{array}$$

There are **13** marbles in each bag.

Exercise 3

Divide the following:

a
$$\begin{array}{r} 32 \\ 14 \overline{) 454} \\ \underline{42} \\ 34 \\ \underline{28} \\ 06 \end{array}$$

32, R = 6

b
$$\begin{array}{r} 80 \\ 12 \overline{) 961} \\ \underline{96} \\ 1 \end{array}$$

80, R = 1

c
$$\begin{array}{r} 66 \\ 11 \overline{) 727} \\ \underline{66} \\ 67 \\ \underline{66} \\ 1 \end{array}$$

66, R = 1

d
$$\begin{array}{r} 49 \\ 13 \overline{) 641} \\ \underline{52} \\ 121 \\ \underline{117} \\ 4 \end{array}$$

49, R = 4

e
$$\begin{array}{r} 191 \\ 22 \overline{) 4202} \\ \underline{22} \\ 200 \\ \underline{198} \\ 22 \\ \underline{22} \\ 0 \end{array}$$

191, R = 0

f
$$\begin{array}{r} 128 \\ 19 \overline{) 2432} \\ \underline{19} \\ 532 \\ \underline{38} \\ 152 \\ \underline{152} \\ 0 \end{array}$$

128, R = 0

Exercise 4

1. Class 4C collected Rs. 2750 as donation money from the whole class. There are 25 students in the class. If each student shared an equal amount, how much money did each child contribute?

$$2750 \div 25 = 110$$

Each child contributed Rs 110

$$\begin{array}{r} 110 \\ 25 \overline{) 2750} \\ \underline{25} \\ 25 \\ \underline{25} \\ 0 \\ \underline{0} \\ 0 \end{array}$$

2. A factory produced 1350 bicycles in 18 days. If the factory produced the same number of bicycles every day, how many bicycles were produced in one day?

$$1350 \div 18 = 75$$

The factory produced 75 bicycles in one day.

$$\begin{array}{r} 75 \\ 18 \overline{) 1350} \\ \underline{18} \\ 90 \\ \underline{90} \\ 0 \end{array}$$

3. A baker bakes 8260 cupcakes and supplies them equally to 14 outlets. How many cupcakes does each outlet receive?

$$8260 \div 14 = 590$$

Each outlet receives 590 cupcakes.

$$\begin{array}{r} 590 \\ 14 \overline{) 8260} \\ \underline{70} \\ 126 \\ \underline{126} \\ 0 \\ \underline{0} \\ 0 \end{array}$$

Exercise 5

11. Complete the given number patterns. Also identify the rule.

a) 15, 20, 25, 30, 35 , 40

Rule: Each number is add 5 than the number before it.

b) 175, 200, 225, 250 , 275 , 300

Rule: Each number is add 25 than the number before it.

c) 486, 456, 426, 396 , 366, 336

Rule: Each number is subtract 30 than the number before it.

d) 2600, 2500, 2400, 2300 , 2200 , 2100

Rule: Each number is subtract 100 than the number before it.

e) 253, 259, 265, 271 , 277 , 283

Rule: Each number is add 6 than the number before it.

f) 98, 91, 84, 77 , 70 , 63

Rule: Each number is subtract 7 than the number before it.

g) 314, 322, 330 , 338 , 346, 354

Rule: Each number is add 8 than the number before it.

h) 790, 775, 760, 745 , 730 , 715

Rule: Each number is subtract 15 than the number before it.

2. Look at the given chart. Find 3 number patterns on the chart. Also state the rule for each pattern.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60

Pattern 1: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Rule: Each number add 1 than the number before it.

Pattern 2: 10, 20, 30, 40, 50, 60

Rule: Each number add 10 than th number done it.

Pattern 3: 5, 15, 25, 35

Rule: Each number add 10 than th number done it.

3. Maham learns 6 new words every day at school. How many words will she learn after 14 days?

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
6	12	18	24	30	36	42	48	54	60	66	72	78	84

Maham will learn **84** words after 14 days.

Unit 4

Factors and Multiples

Exercise 1

1. Encircle the numbers that are divisible by 2.

14	96	30560	154	5742	425
5164	8206	33	340	2689	127
41222	179	678	31044	11558	10061

2. Tick (✓) the numbers that are divisible by 3.

36 ✓	40	255 ✓	326	1642	339 ✓
26720	5955 ✓	615 ✓	19722 ✓	2160 ✓	1273
34776 ✓	468 ✓	11421 ✓	12080	7714	4449 ✓

3. Encircle the numbers that are divisible by 5.

36	50135	255	7327	1642	3315
3620	2955	615	977	41533	1973
1241	85	1142	1736	20570	16000

4. Encircle the numbers that are divisible by 10.

67	90	11630	450	1345	15316
3310	2800	615	977	5513	9903
870	29600	41	531	40114	418

Exercise 2

1. Enlist the factors for each of the following:

a) 24

1, 2, 3, 4, 6, 8, 12, 24

b) 50

1, 2, 5, 10, 25, 50

c) 46

1, 2, 23, 46

d) 56

1, 2, 4, 7, 8, 14, 28, 56

e) 62

1, 2, 31, 62

f) 44

1, 2, 4, 11, 22, 44

g) 18

1, 2, 3, 6, 9, 18

h) 36

1, 2, 3, 4, 6, 9, 12, 18, 36

i) 78

1, 2, 3, 6, 13, 26, 39, 78

j) 85

1, 2, 5, 17, 85

2. Enlist the first ten multiples of 7.

7, 14, 21, 28, 35, 42, 49, 56, 63, 70

3. Find out which of the following numbers are multiples of 4?

a) 26

b) 76 ✓

c) 35

d) 52 ✓

e) 81

4. Find out which of the following numbers are prime numbers?

a) 21

b) 41 ✓

c) 51

d) 71 ✓

e) 83 ✓

5. Look at the grid below. Enlist all the prime numbers and composite numbers in the grid. Circle the prime number and tick the composite number.

21 ✓	22 ✓	23	24 ✓	25 ✓	26 ✓	27 ✓	28 ✓	29	30 ✓
31	32 ✓	33 ✓	34 ✓	35 ✓	36 ✓	37	38 ✓	39 ✓	40 ✓
41	42 ✓	43	44 ✓	45 ✓	46 ✓	47	48 ✓	49 ✓	50 ✓
51 ✓	52 ✓	53	54 ✓	55 ✓	56 ✓	57 ✓	58 ✓	59	60 ✓
61	62 ✓	63 ✓	64 ✓	65 ✓	66 ✓	67	68 ✓	69 ✓	70 ✓
71	72 ✓	73	74 ✓	75 ✓	76 ✓	77 ✓	78 ✓	79	80 ✓

Exercise 3

1. Enlist the prime factors for each of the following.

a) 36

$$\begin{array}{l} 1 \times 36 \\ 2 \times 18 \\ 3 \times 12 \\ 4 \times 9 \\ 6 \times 6 \end{array}$$

b) 58

$$\begin{array}{l} 1 \times 58 \\ 2 \times 29 \end{array}$$

c) 45

$$\begin{array}{l} 1 \times 45 \\ 3 \times 15 \\ 5 \times 9 \end{array}$$

d) 78

$$\begin{array}{l} 1 \times 78 \\ 2 \times 39 \\ 3 \times 26 \end{array}$$

e) 65

$$\begin{array}{l} 1 \times 65 \\ 2 \times 32 \\ 4 \times 16 \\ 8 \times 8 \end{array}$$

f) 90

$$\begin{array}{l} 1 \times 90 \\ 2 \times 45 \\ 3 \times 30 \\ 5 \times 18 \\ 6 \times 15 \\ 9 \times 10 \end{array}$$

2. Enlist the common factors of 24 and 36.

24

$$1 \times 24$$

$$2 \times 12$$

$$3 \times 8$$

$$4 \times 6$$

36

$$1 \times 36$$

$$2 \times 18$$

$$3 \times 12$$

$$4 \times 9$$

$$6 \times 6$$

Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24

Factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36

3. Enlist the first 4 multiples of 5 and 10.

$$5 = 5, 10, 15, 20$$

$$10 = 10, 20, 30, 40$$

4. Enlist the first ten multiples of 6 and 7. Then find out the common multiples between them.

$$6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60$$

$$7 = 7, 14, 21, 28, 35, 42, 49, 56, 63, 76$$

common multiples is 42.

Unit 5

Fractions

Recap Exercise

1. Look at the fractions below. Write 'proper' or 'improper' in front of them.

a) $\frac{3}{7} = \frac{\text{P. F}}{\text{Proper Fraction}}$

b) $\frac{9}{2} = \frac{\text{I. M}}{\text{Improper Fraction}}$

c) $\frac{18}{20} = \frac{\text{P. F}}{\text{Proper Fraction}}$

d) $\frac{6}{11} = \frac{\text{P. F}}{\text{Proper Fraction}}$

e) $\frac{10}{3} = \frac{\text{I. M}}{\text{Improper Fraction}}$

e) $\frac{26}{19} = \frac{\text{I. M}}{\text{Improper Fraction}}$

2. Write 3 equivalent fractions for each of the following.

a) $\frac{2}{5} = \frac{4}{10} \quad \frac{6}{15} \quad \frac{8}{20}$

b) $\frac{3}{7} = \frac{6}{14} \quad \frac{9}{21} \quad \frac{12}{28}$

c) $\frac{1}{10} = \frac{2}{20} \quad \frac{3}{30} \quad \frac{4}{40}$

3. Encircle the bigger fraction in each pair.

a) $\frac{1}{3} \quad \left(\frac{2}{3}\right)$

b) $\frac{4}{7} \quad \left(\frac{5}{7}\right)$

c) $\left(\frac{4}{5}\right) \quad \frac{1}{5}$

d) $\left(\frac{11}{15}\right) \quad \frac{9}{15}$

e) $\frac{5}{11} \quad \left(\frac{10}{11}\right)$

f) $\frac{3}{8} \quad \left(\frac{7}{8}\right)$

g) $\frac{7}{20} \quad \left(\frac{14}{20}\right)$

h) $\frac{8}{9} \quad \left(\frac{9}{9}\right)$

i) $\left(\frac{14}{21}\right) \quad \frac{9}{21}$

4. Add the following fractions.

a) $\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$

b) $\frac{3}{8} + \frac{5}{8} = \frac{8}{8}$

c) $\frac{3}{7} + \frac{2}{7} = \frac{5}{7}$

d) $\frac{4}{9} + \frac{3}{9} = \frac{7}{9}$

e) $\frac{3}{11} + \frac{6}{11} = \frac{9}{11}$

f) $\frac{9}{15} + \frac{3}{15} = \frac{12}{15}$

g) $\frac{4}{10} + \frac{4}{10} = \frac{8}{10}$

h) $\frac{11}{20} + \frac{4}{20} = \frac{15}{20}$

5. Subtract the following fractions.

a) $\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$

b) $\frac{9}{10} - \frac{4}{10} = \frac{5}{10}$

c) $\frac{13}{14} - \frac{10}{14} = \frac{3}{14}$

d) $\frac{6}{7} - \frac{1}{7} = \frac{5}{7}$

e) $\frac{19}{20} - \frac{11}{20} = \frac{8}{20}$

f) $\frac{5}{6} - \frac{2}{6} = \frac{3}{6}$

g) $\frac{16}{18} - \frac{9}{18} = \frac{7}{18}$

h) $\frac{12}{15} - \frac{8}{15} = \frac{4}{15}$

Exercise 1

1. Compare the following fractions. Write $<$ or $>$ in the boxes.

$$(a) \quad \frac{3}{10} < \frac{1}{4}$$

$$(b) \quad \frac{5}{8} > \frac{2}{6}$$

$$(c) \quad \frac{2}{3} > \frac{1}{6}$$

$$(d) \quad \frac{15}{12} > \frac{1}{2}$$

$$(e) \quad \frac{9}{10} > \frac{7}{12}$$

$$(f) \quad \frac{3}{5} = \frac{6}{10}$$

$$(g) \quad \frac{1}{6} < \frac{7}{12}$$

$$(h) \quad \frac{3}{5} > \frac{7}{15}$$

$$(i) \quad \frac{8}{9} > \frac{5}{6}$$

2. State equivalent fraction for each of the following.

$$(a) \quad \frac{1}{2} = \frac{6}{12}$$

$$(b) \quad \frac{3}{8} = \frac{9}{24}$$

$$(c) \quad \frac{8}{9} = \frac{32}{36}$$

$$(d) \quad \frac{5}{6} = \frac{30}{36}$$

$$(e) \quad \frac{6}{5} = \frac{18}{15}$$

$$(f) \quad \frac{4}{7} = \frac{20}{35}$$

$$(g) \quad \frac{5}{10} = \frac{45}{90}$$

$$(h) \quad \frac{3}{4} = \frac{27}{36}$$

$$(i) \quad \frac{4}{11} = \frac{24}{66}$$

Exercise 2

1. Write each fraction in its lowest form.

$$(a) \quad \frac{8}{10} = \frac{4}{5}$$

$$(b) \quad \frac{4}{6} = \frac{2}{3}$$

$$(c) \quad \frac{9}{12} = \frac{3}{4}$$

$$(d) \quad \frac{30}{45} = \frac{2}{3}$$

$$(e) \quad \frac{14}{20} = \frac{7}{10}$$

$$(f) \quad \frac{4}{18} = \frac{2}{9}$$

$$(g) \quad \frac{12}{16} = \frac{3}{4}$$

$$(h) \quad \frac{8}{32} = \frac{1}{4}$$

$$(i) \quad \frac{18}{27} = \frac{2}{3}$$

2. Sara cuts a pie into 12 pieces. She gives 8 slices to her friends. What fraction of the pie is given? Write it in its lowest form.

$$\frac{2}{3} \text{ of the fraction is given.} \quad \frac{8}{12} = \frac{4}{6} = \frac{2}{3}$$

Exercise 3

1. Convert the mixed numbers into improper fractions.

$$a) \quad 3 \frac{1}{8} = \frac{25}{8}$$

$$8 \times 3 = 24 + 1 = 25$$

$$b) \quad 2 \frac{4}{9} = \frac{22}{9}$$

$$9 \times 2 = 18 + 4 = 22$$

$$c) \quad 1 \frac{2}{7} = \frac{9}{7}$$

$$7 \times 1 = 7 + 2 = 9$$

$$d) \quad 4 \frac{4}{5} = \frac{24}{5}$$

$$5 \times 4 = 20 + 4 = 24$$

$$e) \quad 3 \frac{6}{7} = \frac{27}{7}$$

$$7 \times 3 = 21 + 6 = 27$$

$$f) \quad 2 \frac{1}{6} = \frac{13}{6}$$

$$6 \times 2 = 12 + 1 = 13$$

2. Convert the improper fraction into mixed numbers.

a) $\frac{9}{5} = 1\frac{4}{5}$

$$\begin{array}{r} 1 \\ 5 \overline{) 9} \\ \underline{5} \\ 4 \end{array}$$

b) $\frac{13}{6} = 2\frac{1}{6}$

$$\begin{array}{r} 2 \\ 6 \overline{) 13} \\ \underline{12} \\ 1 \end{array}$$

c) $\frac{20}{7} = 2\frac{6}{7}$

$$\begin{array}{r} 2 \\ 7 \overline{) 20} \\ \underline{14} \\ 6 \end{array}$$

d) $\frac{11}{4} = 2\frac{3}{4}$

$$\begin{array}{r} 2 \\ 4 \overline{) 11} \\ \underline{8} \\ 3 \end{array}$$

e) $\frac{19}{3} = 6\frac{1}{3}$

$$\begin{array}{r} 6 \\ 3 \overline{) 19} \\ \underline{18} \\ 1 \end{array}$$

f) $\frac{26}{5} = 5\frac{1}{5}$

$$\begin{array}{r} 5 \\ 5 \overline{) 26} \\ \underline{25} \\ 1 \end{array}$$

3. Arrange each set of fractions in ascending and descending order.

a) $\frac{3}{5}, \frac{1}{6}, \frac{2}{3}$

$$\frac{18}{30}, \frac{5}{30}, \frac{20}{30}$$

Ascending: $\frac{5}{30}, \frac{18}{30}, \frac{20}{30}$

$$= \frac{1}{6}, \frac{3}{5}, \frac{2}{3}$$

Descending: $\frac{20}{30}, \frac{18}{30}, \frac{5}{30}$

$$= \frac{2}{3}, \frac{3}{5}, \frac{1}{6}$$

2	3, 5, 6
3	3, 5, 3
5	1, 5, 1
	1, 1, 1

LCM: $3 \times 5 \times 7 = 105$

Method 2 Equivalent

$$\frac{3}{5} = \frac{6}{10}, \frac{9}{15}, \frac{12}{20}, \frac{15}{25}, \frac{18}{30}$$

$$\frac{1}{6} = \frac{2}{12}, \frac{3}{18}, \frac{4}{24}, \frac{5}{30}$$

$$\frac{2}{3} = \frac{4}{6}, \frac{6}{9}, \frac{8}{12}, \frac{10}{15}, \frac{12}{18}, \frac{14}{21}, \frac{16}{24}, \frac{18}{27}, \frac{20}{30}$$

b) $\frac{2}{5}, \frac{5}{7}, \frac{1}{3}$

$\frac{45}{105}, \frac{75}{105}, \frac{35}{105}$

Ascending: $\frac{35}{105}, \frac{42}{105}, \frac{75}{105}$

$= \frac{1}{3}, \frac{2}{5}, \frac{5}{7}$

Descending: $\frac{5}{7}, \frac{2}{5}, \frac{1}{3}$

$$\begin{array}{r|l} 3 & 3, 5, 7 \\ \hline 5 & 1, 5, 7 \\ \hline 7 & 1, 1, 7 \\ \hline & 1, 1, 1 \end{array}$$

LCM: $3 \times 5 \times 7 = 105$

c) $\frac{1}{8}, \frac{3}{4}, \frac{5}{12}$

$\frac{3}{24}, \frac{18}{24}, \frac{10}{24}$

Ascending: $\frac{3}{24}, \frac{10}{24}, \frac{18}{24}$

$= \frac{1}{8}, \frac{5}{12}, \frac{3}{4}$

Descending: $\frac{3}{4}, \frac{5}{12}, \frac{1}{8}$

$$\begin{array}{r|l} 2 & 4, 4, 12 \\ \hline 2 & 2, 4, 6 \\ \hline 2 & 1, 2, 3 \\ \hline 3 & 1, 1, 3 \\ \hline & 1, 1, 1 \end{array}$$

LCM: $2 \times 2 \times 2 \times 3 = 24$

d) $\frac{4}{5}, \frac{7}{10}, \frac{11}{15}$

$\frac{24}{30}, \frac{21}{30}, \frac{22}{30}$

Ascending: $\frac{21}{30}, \frac{22}{30}, \frac{24}{30}$

$= \frac{7}{10}, \frac{11}{15}, \frac{4}{5}$

Descending: $\frac{4}{5}, \frac{11}{15}, \frac{7}{10}$

$$\begin{array}{r|l} 2 & 5, 10, 15 \\ \hline 3 & 5, 5, 15 \\ \hline 5 & 5, 5, 5 \\ \hline & 1, 1, 1 \end{array}$$

LCM: $2 \times 3 \times 5 = 30$

Exercise 4

1. Add the following fractions.

$$a) \frac{5}{11} + \frac{4}{11} = \frac{9}{11}$$

$$b) \frac{3}{8} + \frac{2}{8} = \frac{5}{8}$$

$$c) \frac{3}{7} + \frac{3}{7} = \frac{6}{7}$$

$$d) \frac{4}{15} + \frac{3}{15} + \frac{7}{15} = \frac{14}{15}$$

$$e) \frac{7}{9} + \frac{13}{9} = \frac{20}{9}$$

$$f) \frac{4}{5} + \frac{3}{5} + \frac{3}{5} = \frac{10}{5}$$

$$g) \frac{5}{16} + \frac{3}{16} + \frac{9}{16} = \frac{17}{16}$$

$$h) \frac{3}{10} + \frac{4}{10} + \frac{5}{10} = \frac{12}{10}$$

$$i) \frac{4}{6} + \frac{1}{6} + \frac{3}{6} = \frac{8}{6}$$

2. Subtract the following fractions.

$$a) \frac{7}{11} - \frac{4}{11} = \frac{3}{11}$$

$$b) \frac{11}{14} - \frac{5}{14} = \frac{6}{14}$$

$$c) \frac{8}{9} - \frac{3}{9} = \frac{5}{9}$$

$$d) \frac{12}{19} - \frac{9}{19} = \frac{3}{19}$$

$$e) \frac{9}{10} - \frac{4}{10} = \frac{5}{10}$$

$$f) \frac{10}{13} - \frac{7}{13} = \frac{3}{13}$$

$$g) \frac{13}{16} - \frac{8}{16} = \frac{5}{16}$$

$$h) \frac{15}{20} - \frac{10}{20} = \frac{5}{20}$$

$$i) \frac{6}{7} - \frac{2}{7} = \frac{4}{7}$$

3. A farmer harvests $\frac{8}{11}$ kg of corn and $\frac{7}{11}$ kg of wheat. How much crop does he harvest altogether?

$$\frac{8}{11} + \frac{7}{11} = \frac{15}{11}$$

He harvests $\frac{15}{11}$ of crops altogether.



4. Sana completed her homework in $\frac{8}{10}$ hours. Her sister completed her homework in $\frac{5}{10}$ hours. How much more time did Sana take than her sister to complete her home work?

$$\frac{8}{10} - \frac{5}{10} = \frac{3}{10}$$

Sana took $\frac{3}{10}$ more to complete her homework.

Exercise 5

1. Multiply the following fractions.

$$a) \frac{7}{5} \times \frac{5}{6}$$

$$\frac{7}{\cancel{5}^1} \times \frac{\cancel{5}^1}{6} = \frac{7}{6} = 1 \frac{1}{6}$$

$$b) \frac{3}{6} \times \frac{8}{2}$$

$$\frac{\cancel{3}^3}{\cancel{6}^2} \times \frac{\cancel{8}^4}{2} = \frac{\cancel{12}^2}{\cancel{6}^1} = \frac{2}{1}$$

$$c) \frac{2}{7} \times 14$$

$$\frac{2}{\cancel{7}^1} \times \cancel{14}^2 = 4$$

$$d) \frac{3}{4} \times 20$$

$$\frac{3}{\cancel{4}^1} \times \cancel{20}^2 = 15$$

$$e) \frac{2}{3} \times 18$$

$$\frac{2}{\cancel{3}^1} \times \cancel{18}^6 = 12$$

$$f) \frac{7}{10} \times \frac{5}{21}$$

$$\frac{\cancel{7}^1}{\cancel{10}^2} \times \frac{\cancel{5}^1}{\cancel{21}^3} = \frac{1}{6}$$

2. Divide the following fractions.

$$a) \frac{11}{20} \div 22$$

$$\frac{\cancel{11}^1}{20} \times \frac{1}{\cancel{22}^2} = \frac{1}{40}$$

$$b) \frac{5}{6} \div 15$$

$$\frac{\cancel{5}^1}{6} \times \frac{1}{\cancel{15}^3} = \frac{1}{18}$$

$$c) \frac{4}{7} \div 24$$

$$\frac{\cancel{4}^1}{7} \times \frac{1}{\cancel{24}^6} = \frac{1}{42}$$

$$d) \frac{15}{16} \div 21$$

$$\frac{\cancel{15}^5}{16} \times \frac{1}{\cancel{21}^2} = \frac{5}{112}$$

$$e) \frac{18}{24} \div 3$$

$$\frac{\cancel{18}^6}{\cancel{24}^3} \times \frac{1}{\cancel{3}^1} = \frac{\cancel{6}^1}{\cancel{4}^1} = \frac{1}{4}$$

$$f) \frac{10}{25} \div 20$$

$$\frac{\cancel{10}^1}{\cancel{25}^5} \times \frac{1}{\cancel{20}^2} = \frac{1}{50}$$

$$g) \frac{4}{12} \div 8$$

$$\frac{\cancel{4}^1}{\cancel{12}^2} \times \frac{1}{\cancel{8}^1} = \frac{1}{24}$$

$$h) 35 \div \frac{5}{7}$$

$$\frac{1}{\cancel{35}^5} \times \frac{\cancel{5}^1}{\cancel{7}^1} = \frac{1}{49}$$

$$i) 16 \div \frac{4}{9}$$

$$\frac{1}{\cancel{16}^4} \times \frac{\cancel{4}^1}{\cancel{9}^1} = \frac{1}{36}$$

3. Erum has 24 glasses. $\frac{5}{6}$ of the glasses break. How many glasses does she have left?

$$1 \frac{5}{\cancel{6}} \times \cancel{24}^4 = 20$$

She has 20 glasses left.



4. Adil shares $4 \frac{1}{2}$ kg of sweets among 9 children. How much sweet dose each child get?

$$4 \frac{1}{2} = \frac{9}{2} \div 9$$

$$= \frac{\cancel{9}^1}{2} \times \frac{1}{\cancel{9}_1} = \frac{1}{2}$$

Each child gets $\frac{1}{2}$ sweets.



Unit 6

Decimals

Exercise 1

1. Represent each of the following in a place value chart.

a 2.67

tens	ones	tenths	hundredths	thousandths
	2	6	7	

b 13.04

tens	ones	tenths	hundredths	thousandths
1	3	0	4	

c 7.127

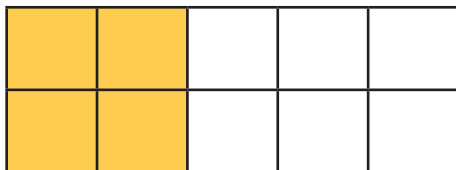
tens	ones	tenths	hundredths	thousandths
	7	1	2	7

d 23.935

tens	ones	tenths	hundredths	thousandths
2	3	9	3	5

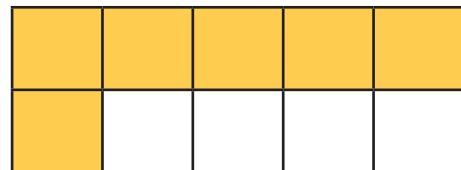
2. Write the shaded and unshaded parts of each figure in decimals.

a



Shaded: 0.4
Unshaded: 0.6

b



Shaded: 0.6
Unshaded: 0.4

3. Fill in the blanks.

a 5.73

_____ hundredth _____ place
 _____ tenth _____ place
 _____ ones _____ place

b 8.106

_____ thousandth _____ place
 _____ hundredth _____ place
 _____ tenth _____ place
 _____ ones _____ place

c 36.34

_____ hundredth _____ place
 _____ tenth _____ place
 _____ ones _____ place
 _____ tens _____ place

d 13.079

_____ thousandth _____ place
 _____ hundredth _____ place
 _____ tenth _____ place
 _____ ones _____ place
 _____ tens _____ place

e 25.764

_____ thousandth _____ place
 _____ hundredth _____ place
 _____ tenth _____ place
 _____ ones _____ place
 _____ tens _____ place

4. Write the following in expanded form.

a $7.31 = \underline{4} + \underline{0.3} + \underline{0.01}$.

b $12.59 = \underline{10} + \underline{2} + \underline{0.5} + \underline{0.09}$.

c $27.254 = \underline{20} + \underline{7} + \underline{0.2} + \underline{0.05} + \underline{0.004}$.

5. Convert the following into decimals.

a $\frac{23}{100} = 0.23$ 0.23

b $\frac{12}{500} = \frac{24}{1000} = 0.024$

c $\frac{3}{250} = \frac{12}{100} = 0.12$

d $\frac{7}{25} = \frac{28}{100} = 0.28$

e $\frac{21}{50} = \frac{42}{100} = 0.42$

f $\frac{8}{1000} = 0.008$

6. Convert the following into fractions.

a $1.3 = 1\frac{3}{10} = \frac{13}{10}$

b $2.04 = 2\frac{4}{100} = \frac{204}{100}$

c $5.5 = 5\frac{5}{10} = \frac{55}{10}$

d $5.5 = 6\frac{5}{10} = \frac{65}{10}$

e $21.72 = 21\frac{72}{100} = \frac{2172}{100}$

f $7.87 = 7\frac{87}{100} = \frac{787}{100}$

g $0.98 = \frac{98}{100}$

h $11.15 = 11\frac{15}{100} = \frac{1115}{100}$

Exercise 2

1. Add the following decimals.

$$\begin{array}{r} \text{a} \\ 9.11 \\ + 8.03 \\ \hline 17.15 \end{array}$$

$$\begin{array}{r} \text{b} \\ 5\overset{1}{2}.9 \\ + 3.7 \\ \hline 56.6 \end{array}$$

$$\begin{array}{r} \text{c} \\ 4\overset{1}{9}.3 \\ + 21.6 \\ \hline 70.9 \end{array}$$

$$\begin{array}{r} \text{d} \\ 6.\overset{1}{0}2 \\ + 1.89 \\ \hline 7.91 \end{array}$$

$$\begin{array}{r} \text{e} \\ 1\overset{1}{3}.\overset{1}{9}6 \\ + 10.24 \\ \hline 24.20 \end{array}$$

$$\begin{array}{r} \text{f} \\ 15.06 \\ + 3.71 \\ \hline 18.77 \end{array}$$

2. Subtract the following.

$$\begin{array}{r} \text{a} \\ \overset{3}{4}\overset{18}{9}.1 \\ - 3.92 \\ \hline 0.99 \end{array}$$

$$\begin{array}{r} \text{b} \\ 43.9 \\ - 12.7 \\ \hline 31.2 \end{array}$$

$$\begin{array}{r} \text{c} \\ 9.\overset{7}{8}\overset{1}{0} \\ - 1.09 \\ \hline 8.71 \end{array}$$

$$\begin{array}{r} \text{d} \\ 5.06 \\ - 2.14 \\ \hline 3.12 \end{array}$$

$$\begin{array}{r} \text{e} \\ 17.88 \\ - 16.24 \\ \hline 01.64 \end{array}$$

$$\begin{array}{r} \text{f} \\ 78.94 \\ - 7.14 \\ \hline 71.80 \end{array}$$

3. The mass of a packet of sugar is 5.65 kg. The mass of a packet of flour is 6.23 kg.

(a) What is the total mass of both items?

$$\begin{array}{r} 5.65 \\ + 6.23 \\ \hline 11.88 \end{array}$$



The total mass is **11.88 kg**

(b) What is the difference of their masses?

$$\begin{array}{r} 6.23 \\ - 5.65 \\ \hline 0.58 \end{array}$$

The difference of their masses is **0.58 kg**

4. There are 18.36 ℓ of water in a tank. 9.43 ℓ of water is used. How much water is left?

$$\begin{array}{r} 18.36 \\ - 9.43 \\ \hline 8.93 \end{array}$$



8.92 ℓ of water is left.

5. Aslam buys a bag for Rs 68.90. He also buys a pen for Rs 18.50. How much does he pay altogether?

$$\begin{array}{r} 68.90 \\ + 18.50 \\ \hline 87.40 \end{array}$$



Aslam pays **Rs 87.40** altogether.

Exercise 3

1. Multiply the following decimals.

a $5.9 \times 10 = 59$

b $4.8 \times 100 = 480$

c $0.4 \times 1000 = 400$

d $9.2 \times 100 = 920$

e

$$\begin{array}{r} 4.6 \\ \times 8 \\ \hline 36.8 \\ \hline \end{array}$$

f

$$\begin{array}{r} 7.3 \\ \times 2 \\ \hline 14.6 \\ \hline \end{array}$$

g

$$\begin{array}{r} 5.8 \\ \times 4 \\ \hline 23.2 \\ \hline \end{array}$$

h

$$\begin{array}{r} 1.8 \\ \times 9 \\ \hline 16.2 \\ \hline \end{array}$$

i

$$\begin{array}{r} 14.5 \\ \times 2 \\ \hline 29.0 \\ \hline \end{array}$$

j

$$\begin{array}{r} 23.7 \\ \times 3 \\ \hline 71.1 \\ \hline \end{array}$$

2. Divide the following.

a $6.8 \div 2 = 3.4$

b $9.9 \div 3 = 3.3$

c $10.8 \div 4 = 2.7$

d $27.5 \div 5 = 5.5$

e $12.6 \div 4 = 3.15$

f $16.2 \div 6 = 2.7$

g $19.5 \div 5 = 3.9$

h $18.8 \div 2 = 9.4$

3. There are 0.6 ℓ of water in a glass. How much water is there in 8 such glasses?

$$0.6 \times 8 = 4.8$$

There are 4.8 water in 8 glasses.

4. Ahmed answers 7 quick questions of mathematics in 10.5 minutes. How much time does he take to answer one question?

$$10.5 \times 7 = 1.5$$

He takes 1.5 to answer 1 question.

5. A tailor uses 2.5 m to stitch each shirt. How much does he use to stitch 6 shirts?

$$2.5 \times 6 = 15$$

The tailor uses 15m to stitch 6 shirts.

Exercise 3

1. Round off the following decimals to the nearest whole number.

a $5.61 \approx$

6

b $7.5 \approx$

8

c $18.93 \approx$

19

d $2.33 \approx$

2

e $61.19 \approx$

61

f $46.17 \approx$

46

g $3.77 \approx$

4

i $8.03 \approx$

8

2. Round off the following decimals to the nearest tenth.

a $13.25 \approx$

13.3

b $2.16 \approx$

2.2

c $16.33 \approx$

16.3

d $25.40 \approx$

25.4

e $8.19 \approx$

8.2

f $61.70 \approx$

61.7

g $36.17 \approx$

36.2

i $40.68 \approx$

40.7

3. Round off the following decimals to the nearest hundredth.

i $4.323 \approx$

4.32

j $7.716 \approx$

7.72

k $1.809 \approx$

1.81

l $0.546 \approx$

0.55

m $0.219 \approx$

0.22

n $4.610 \approx$

4.61

o $3.004 \approx$

3.00

p $4.009 \approx$

4.01

Unit 7

Length, Mass and Capacity

Recap Exercise

1. Add or subtract the given lengths.

$$\begin{array}{r}
 \text{a} \quad \text{m} \quad \text{cm} \\
 \begin{array}{r}
 \overset{|}{5} \ 2 \quad 7 \ 4 \\
 + \ 1 \ 8 \quad 1 \ 3 \\
 \hline
 7 \ 0 \quad 8 \ 7 \\
 \hline
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{b} \quad \text{m} \quad \text{cm} \\
 \begin{array}{r}
 \overset{|}{\cancel{2}} \ 3 \quad \overset{5}{\cancel{6}} \ 0 \\
 - \quad 5 \quad 3 \ 2 \\
 \hline
 1 \ 8 \quad 2 \ 8 \\
 \hline
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{c} \quad \text{km} \quad \text{m} \\
 \begin{array}{r}
 2 \ 3 \quad \overset{|}{5} \ 8 \\
 + \ 3 \ 4 \quad 2 \ 6 \\
 \hline
 5 \ 7 \quad 8 \ 4 \\
 \hline
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{d} \quad \text{km} \quad \text{m} \\
 \begin{array}{r}
 5 \ 5 \quad 7 \ 9 \\
 - \ 1 \ 3 \quad \quad 4 \\
 \hline
 4 \ 2 \quad 7 \ 5 \\
 \hline
 \end{array}
 \end{array}$$

2. Add or subtract the given masses.

$$\begin{array}{r}
 \text{a} \quad \text{kg} \quad \text{g} \\
 \begin{array}{r}
 2 \ 3 \quad 2 \ 0 \ 3 \\
 + \ 4 \ 1 \quad \quad 5 \ 6 \\
 \hline
 6 \ 4 \quad 2 \ 5 \ 9 \\
 \hline
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{b} \quad \text{kg} \quad \text{g} \\
 \begin{array}{r}
 \overset{3}{\cancel{4}} \ \overset{|}{5} \quad 5 \ 4 \ 4 \\
 - \ 2 \ 6 \quad \quad 0 \ 2 \\
 \hline
 1 \ 9 \quad 5 \ 4 \ 2 \\
 \hline
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{c} \quad \text{kg} \quad \text{g} \\
 \begin{array}{r}
 7 \ 3 \quad 6 \ \overset{|}{0} \ 8 \\
 + \ 2 \ 1 \quad \quad 3 \ 6 \\
 \hline
 9 \ 4 \quad 6 \ 4 \ 4 \\
 \hline
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{d} \quad \text{kg} \quad \text{g} \\
 \begin{array}{r}
 \overset{7}{\cancel{8}} \ \overset{|}{0} \quad 5 \ 5 \ 4 \\
 - \ 2 \ 3 \quad \quad 3 \ 4 \\
 \hline
 5 \ 7 \quad 5 \ 2 \ 0 \\
 \hline
 \end{array}
 \end{array}$$

3. Add or subtract the following.

$$\begin{array}{r} \text{a} \quad \ell \quad \quad \quad \text{m} \ell \\ 4 \text{ l} \quad 9 \text{ 0} \text{ 3} \\ + 2 \text{ 5} \quad \quad \text{1} \text{ 0} \\ \hline 6 \text{ 6} \quad 9 \text{ 1} \text{ 3} \end{array}$$

$$\begin{array}{r} \text{b} \quad \ell \quad \quad \quad \text{m} \ell \\ 2 \text{ }^1\text{3} \quad \text{}^1\text{4} \text{}^1\text{5} \text{ 4} \\ + 2 \text{ 5} \quad 7 \text{ 4} \text{ 8} \\ \hline 4 \text{ 9} \quad 2 \text{ 0} \text{ 2} \end{array}$$

$$\begin{array}{r} \text{c} \quad \ell \quad \quad \quad \text{m} \ell \\ \text{}^5\text{6} \text{}^1\text{2} \quad 5 \text{ 7} \text{ 6} \\ - 3 \text{ 4} \quad 1 \text{ 4} \text{ 2} \\ \hline 2 \text{ 8} \quad 4 \text{ 3} \text{ 2} \end{array}$$

$$\begin{array}{r} \text{d} \quad \ell \quad \quad \quad \text{m} \ell \\ 7 \text{ 9} \quad \text{}^4\text{5} \text{}^1\text{3} \text{ 1} \\ - 1 \text{ 1} \quad \quad 8 \text{ 0} \\ \hline 8 \text{ 8} \quad 4 \text{ 5} \text{ 1} \end{array}$$

Exercise 1

1. Add or subtract following.

$$\begin{array}{r} \text{a} \quad \text{m} \quad \quad \quad \text{cm} \\ 2 \quad 7 \text{ 4} \\ + 6 \quad 1 \text{ 3} \\ \hline 8 \quad 8 \text{ 7} \end{array}$$

$$\begin{array}{r} \text{b} \quad \text{m} \quad \quad \quad \text{cm} \\ 1 \text{ 5} \quad 6 \text{ 0} \\ + 2 \quad 3 \text{ 2} \\ \hline 1 \text{ 7} \quad 9 \text{ 2} \end{array}$$

$$\begin{array}{r} \text{c} \quad \text{km} \quad \quad \quad \text{m} \\ 6 \text{ 0} \quad 1 \text{ 7} \\ + 2 \text{ 3} \quad 2 \text{ 6} \\ \hline 8 \text{ 3} \quad 4 \text{ 3} \end{array}$$

$$\begin{array}{r} \text{d} \quad \text{km} \quad \quad \quad \text{m} \\ 4 \text{ 1} \quad 5 \text{ 4} \\ - 2 \text{ 6} \quad 4 \text{ 9} \\ \hline 1 \text{ 5} \quad 0 \text{ 5} \end{array}$$

$$\begin{array}{r} \text{e} \quad \text{km} \quad \quad \quad \text{m} \\ 3 \text{ 7} \quad 5 \text{ 8} \\ - 1 \text{ 4} \quad 4 \text{ 0} \text{ 4} \\ \hline 2 \text{ 3} \quad 4 \text{ 5} \text{ 4} \end{array}$$

$$\begin{array}{r} \text{f} \quad \text{km} \quad \quad \quad \text{m} \\ 5 \text{ 5} \quad 1 \text{ 2} \text{ 4} \\ - 3 \text{ 2} \quad 1 \text{ 1} \text{ 7} \\ \hline 2 \text{ 3} \quad 0 \text{ 0} \text{ 7} \end{array}$$

2. Sara has a rope that is 24 m 56 cm long. Nida has a rope that measures 17 m 28 cm. What is the total length of the ropes the girls have?



$$56 \text{ cm} + 28 \text{ cm} = 84$$

$$24 \text{ m} + 17 \text{ m} = 41$$

The rope is 41 m 84 cm long.

	m	cm
	24	56
+	17	28
	41	84

3. The length of a drawing room is 6 m 60 cm. The length of the dining room is 4 m 15 cm.



- a) What is the total length of both rooms?
 b) How much longer is the drawing room than the dining room?

Give your answers in centimetres.

a) $10 \text{ m} \rightarrow \text{cm} + 75 \text{ cm}$
 $10 \times 100 = 100 \text{ cm} + 75 \text{ cm}$
 $= 1075 \text{ cm}$

	m	cm
	6	60
+	4	15
	10	75

The total length of the rooms is 1075 cm

b) $2 \text{ m} \rightarrow \text{cm} + 45 \text{ cm}$
 $2 \times 100 = 200 \text{ cm} + 45 \text{ cm}$
 $= 245 \text{ cm}$

	m	cm
	6	60
-	4	15
	2	45

The drawing room is 245 cm longer than the dining room.

Exercise 2

1. Add or subtract following.

a	kg	g		
	6	3	4	
+	2	5	3	
	8	8	7	

b	kg	g		
	3	4	5	0
-	6	1	2	
	2	8	3	8

c	kg	g		
	2	3	2	5
+	2	1	1	0
	4	4	3	6

d	kg	g		
	4	5	7	5
-	2	6	0	2
	1	9	7	5

e	kg	g		
	5	4	2	1
+	3	6	0	8
	5	7	8	2

f	kg	g		
	7	9	3	6
-	2	5	1	5
	5	4	2	0

2. Alia has 9 kg 900 g of flour. She uses 4 kg 460 g to make bread. How much flour does she have left?

$$900 \text{ g} - 460 \text{ g} =$$

$$9 \text{ kg} - 4 \text{ kg} =$$



	kg	g		
	9	900		
-	4	460		
	5	440		

She has 5 kg 440 g flour left.

3. Aamir has 12 kg 460 g of potatoes. He buys 16 kg 375 g more. What is the total mass of potatoes?



$$460 + 375 = 875 \text{ g}$$

$$12 \text{ kg} + 16 \text{ kg} = 28 \text{ kg}$$

The total mass of potatoes is 28 kg 835 g

kg	g
12	460
16	375
<hr/>	
28	835

4. The mass of a crate of apples is 19 kg 355 g. The mass of a crate of mangoes is 27 kg 800 g.



- a) What is the total mass of both crates of fruits in grams?
 b) How much heavier is the crate of mangoes than the crate of apples?

a) $355 + 800 = 1155 \text{ g}$
 $19 + 27 = 46 \text{ kg}$

The total mass of the fruits is 47 kg 155g

kg	g
19	355
27	800
<hr/>	
47	155

b) $800 - 355 = 445$
 $27 - 19 = 08$

The crate of mangoes is 8 kg 445 g heavier than the crate of apples.

kg	g
27	800
19	355
<hr/>	
8	445

Exercise 3

1. Add or subtract following.

$$\begin{array}{r} \text{a} \quad \ell \quad \quad \text{m}\ell \\ 2 \ 8 \quad 3 \ 4 \\ + \quad 3 \quad 4 \ 3 \\ \hline 3 \ 1 \quad 7 \ 7 \end{array}$$

$$\begin{array}{r} \text{b} \quad \ell \quad \quad \text{m}\ell \\ 6 \ 5 \quad 5 \ 1 \\ - \quad 1 \quad 2 \ 5 \\ \hline 6 \ 4 \quad 2 \ 6 \end{array}$$

$$\begin{array}{r} \text{c} \quad \ell \quad \quad \text{m}\ell \\ 3 \ 1 \quad 2 \ 1 \ 3 \\ + \ 3 \ 5 \quad 5 \ 0 \ 9 \\ \hline 6 \ 6 \quad 7 \ 2 \ 2 \end{array}$$

$$\begin{array}{r} \text{d} \quad \ell \quad \quad \text{m}\ell \\ 7 \ 0 \quad 6 \ 0 \ 2 \\ - \ 2 \ 4 \quad 3 \ 5 \ 0 \\ \hline 4 \ 6 \quad 2 \ 5 \ 2 \end{array}$$

$$\begin{array}{r} \text{e} \quad \ell \quad \quad \text{m}\ell \\ 6 \ 3 \quad 9 \ 1 \ 5 \\ - \ 1 \ 3 \quad 5 \ 6 \ 0 \\ \hline 5 \ 0 \quad 3 \ 5 \ 5 \end{array}$$

$$\begin{array}{r} \text{f} \quad \ell \quad \quad \text{m}\ell \\ 5 \ 3 \quad 4 \ 6 \ 4 \\ + \ 2 \ 0 \quad 1 \ 4 \ 8 \\ \hline 7 \ 3 \quad 6 \ 1 \ 2 \end{array}$$

2. A shop sells $24 \ell 550 \text{ m}\ell$ of cooking oil on Monday. It sells $14 \ell 250 \text{ m}\ell$ of oil on Tuesday. How much oil does the shop sell altogether?

$$550 \text{ m}\ell + 250 \text{ m}\ell = 800 \text{ m}\ell$$

$$24 \ell + 14 \ell = 38 \ell$$

The shop sells $38 \ell 800 \text{ m}\ell$ of oil altogether.



	ℓ	$\text{m}\ell$
	24	550
-	14	250
	38	800

3. The capacity of a water tank is $16 \ell 800 \text{ mL}$. It is filled with $10 \ell 575 \text{ mL}$ of water. How much more water can be filled in the tank?



$$800 - 575 = 225$$

$$16 - 10 = 6$$

$6 \ell 225 \text{ mL}$ more water can be filled in the tank.

ℓ	mL
16	800
- 10	575
6	225

4. Hamna prepares $13 \ell 180 \text{ mL}$ of apple juice and $16 \ell 800 \text{ mL}$ of orange juice for a school party.



- a) How much juice does she prepare altogether?

She prepares $29 \ell 980 \text{ mL}$ juice altogether.

ℓ	mL
13	180
+ 16	800
29	980

- b) If the children drink $23 \ell 450 \text{ mL}$ of juice, how much juice is left? Give your answer in millilitres.

6530 mL of juice is left.

ℓ	mL
29	980
+ 23	450
6	530

Unit 8

Time

Recap Exercise

1. Add or subtract the following.

a

$$\begin{array}{r} 4 \text{ h} \\ + 3 \text{ h} \\ \hline 7 \text{ h} \end{array}$$

b

$$\begin{array}{r} 1 \ 2 \ \text{h} \\ + \quad 4 \ \text{h} \\ \hline 1 \ 6 \ \text{h} \end{array}$$

c

$$\begin{array}{r} 1 \ 7 \ \text{h} \\ - \quad 3 \ \text{h} \\ \hline 1 \ 4 \ \text{h} \end{array}$$

d

$$\begin{array}{r} 9 \ \text{h} \\ - 2 \ \text{h} \\ \hline 7 \ \text{h} \end{array}$$

e

$$\begin{array}{r} 1 \ 4 \ \text{h} \\ + 1 \ 1 \ \text{h} \\ \hline 2 \ 5 \ \text{h} \end{array}$$

f

$$\begin{array}{r} 2 \ 8 \ \text{h} \\ - 1 \ 6 \ \text{h} \\ \hline 1 \ 2 \ \text{h} \end{array}$$

g

$$\begin{array}{r} 6 \ \text{h} \\ + 3 \ \text{h} \\ \hline 9 \ \text{h} \end{array}$$

h

$$\begin{array}{r} 3 \ 6 \ \text{h} \\ - 2 \ 5 \ \text{h} \\ \hline 1 \ 1 \ \text{h} \end{array}$$

i

$$\begin{array}{r} 4 \ 9 \ \text{h} \\ - 3 \ 7 \ \text{h} \\ \hline 1 \ 2 \ \text{h} \end{array}$$

2. Maha and Sana watch television for 1 hour. Then they do their homework for 3 hours. How much time do the girls spend altogether?



$$1 \text{ hours} + 3 \text{ hours} = 4 \text{ hours}$$

The girls spend 4 hours together.

$$\begin{array}{r} 1 \text{ h} \\ + 3 \text{ h} \\ \hline 4 \text{ h} \end{array}$$

2. Asad takes 7 hours to paint a room. Umar takes 5 hours to paint the same room. How much more time does Asad take than Umar to paint the room?



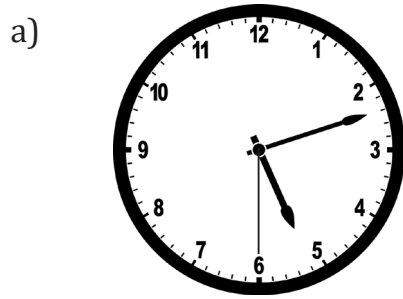
$$7 \text{ hours} - 5 \text{ hours} = 2 \text{ hours}$$

Asad takes 2 hours more to paint the room.

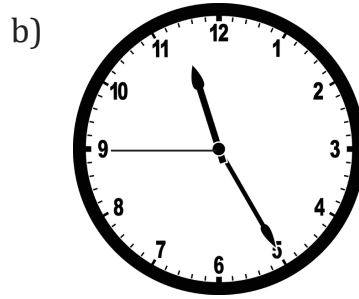
$$\begin{array}{r} 7 \text{ h} \\ - 5 \text{ h} \\ \hline 2 \text{ h} \end{array}$$

Exercise 1

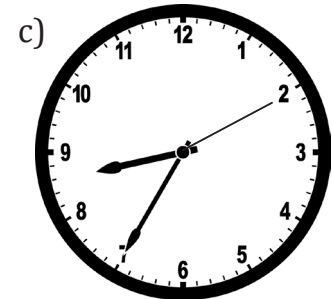
1. Write time shown in the clocks in the clocks in the boxes.



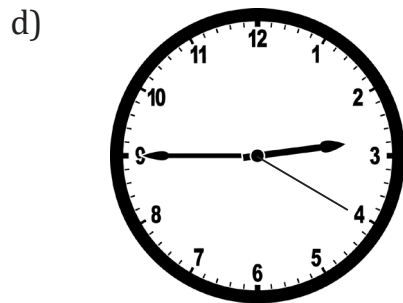
5:12



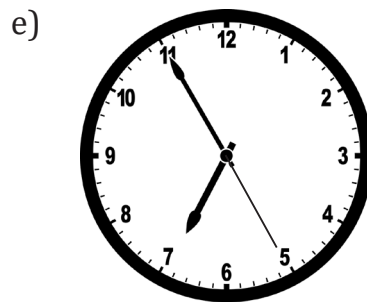
11:25



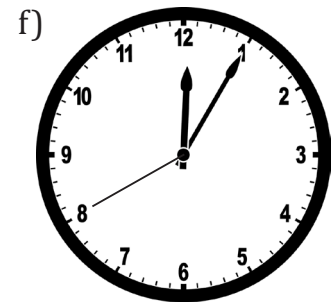
8:35



2:45

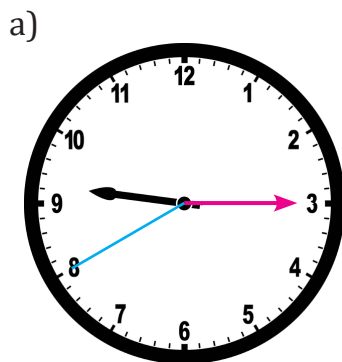


6:55

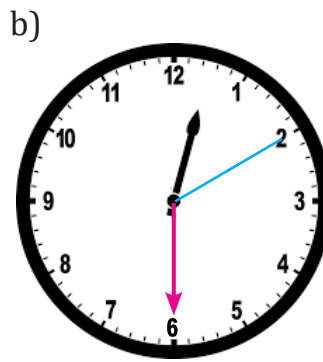


12:05

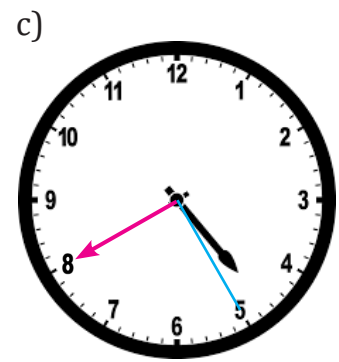
2. Show the time on the clocks by drawing the minute hand and second hand.



9 : 15 : 40



12 : 30 : 10



04 : 40 : 25

3. Fill in the blanks with the correct time.

a) 7:20 a.m. \longleftrightarrow 0721 hours

b) 4:31 a.m. \longleftrightarrow 04 31 hours

c) 3:06 p.m. \longleftrightarrow 15 06 hours

d) 9:23 p.m. \longleftrightarrow 2123 hours

e) 6:58 a.m. \longleftrightarrow 0658 hours

f) 11:42 p.m. \longleftrightarrow 22 42 hours

Exercise 2

1. Convert the following into minutes.

a) 3 h
= 3×60
= 180 min

b) 7 h
= 7×60
= 420 min

c) 11 h
= 11×60
= 660 min

d) 2 h 15 min
= 2 h = $120 + 15$
= 135 min

e) 3 h 48 min
= 3 h = $180 + 48$
= 228 min

f) 5 h 3 min
= 5 h = $300 + 3$
= 303 min

g) 4 h 39 min
= 4 h = $240 + 39$
= 279 min

h) 6 h 23 min
= 6 h = $360 + 23$
= 383 min

i) 9 h 11 min
= 9 h = $540 + 11$
= 551 min

2. Convert the following into seconds.

$$\begin{aligned} \text{a) } 5 \text{ min} \\ &= 5 \times 60 \\ &= 300 \text{ sec.} \end{aligned}$$

$$\begin{aligned} \text{b) } 13 \text{ min} \\ &= 13 \times 60 \\ &= 780 \text{ sec.} \end{aligned}$$

$$\begin{aligned} \text{c) } 25 \text{ min} \\ &= 25 \times 60 \\ &= 1500 \text{ sec.} \end{aligned}$$

$$\begin{aligned} \text{d) } 2 \text{ min } 17 \text{ sec} \\ &= 2 = 120 + 17 \\ &= 300 \text{ sec.} \end{aligned}$$

$$\begin{aligned} \text{e) } 4 \text{ min } 20 \text{ sec} \\ &= 4 = 240 + 20 \\ &= 780 \text{ sec.} \end{aligned}$$

$$\begin{aligned} \text{f) } 3 \text{ min } 36 \text{ sec} \\ &= 3 = 180 + 36 \\ &= 216 \text{ sec.} \end{aligned}$$

$$\begin{aligned} \text{g) } 9 \text{ h } 41 \text{ min} \\ &= 9 = 540 + 41 \\ &= 581 \times 60 \\ &= 34,860 \text{ sec.} \end{aligned}$$

$$\begin{aligned} \text{h) } 6 \text{ min } 52 \text{ sec} \\ &= 6 = 360 + 52 \\ &= 412 \text{ sec.} \end{aligned}$$

$$\begin{aligned} \text{i) } 8 \text{ min } 27 \text{ sec} \\ &= 8 = 480 + 27 \\ &= 507 \text{ sec.} \end{aligned}$$

Exercise 3

1. How many months are there in:

$$\begin{aligned} \text{a) } 5 \text{ years?} \\ 5 \times 12 = 60 \text{ months} \end{aligned}$$

$$\begin{aligned} \text{b) } 2 \text{ years } 6 \text{ months?} \\ 19 \times 7 = 133 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{c) } 1 \text{ year } 11 \text{ months?} \\ 12 \text{ months} + 11 = 23 \text{ months} \end{aligned}$$

$$\begin{aligned} \text{d) } 6 \text{ years } 2 \text{ months?} \\ 6 \times 12 = 72 + 2 = 74 \text{ months} \end{aligned}$$

$$\begin{aligned} \text{e) } 3 \text{ years } 7 \text{ months?} \\ 36 \text{ months} + 7 \text{ months} \\ = 41 \text{ months} \end{aligned}$$

$$\begin{aligned} \text{f) } 11 \text{ years } 5 \text{ months?} \\ 132 \text{ months} + 5 \text{ months} \\ = 137 \text{ months} \end{aligned}$$

2. How many days are there in:

a) 6 weeks?

$$6 \times 7 = 42 \text{ days}$$

b) 19 weeks?

$$19 \times 7 = 133 \text{ days}$$

c) 10 weeks 2 days?

$$10 \times 7 = 70 + 2 = 72 \text{ days}$$

d) 2 months 12 days?

$$2 \times 30 = 60 + 12 = 72 \text{ days}$$

e) 4 months 7 days?

$$4 \times 30 = 120 + 7 = 127 \text{ days}$$

f) 11 months 25 days?

$$11 \times 30 = 330 + 25 = 355 \text{ days}$$

Exercise 4

1. Add the following.

a) 5 h 15 min 31 sec + 2 h 20 min 3 sec

$$\begin{array}{r} 5 \text{ h } 15 \text{ m } 31 \text{ sec} \\ + 2 \text{ h } 20 \text{ m } 3 \text{ sec} \\ \hline 7 \text{ h } 35 \text{ m } 34 \text{ sec} \end{array}$$

b) 6 months 14 days + 3 months 12 days

$$\begin{array}{r} 6 \text{ m } 14 \text{ d} \\ + 3 \text{ m } 12 \text{ d} \\ \hline 9 \text{ m } 26 \text{ d} \end{array}$$

c) 4 years 5 months 6 days + 6 years 2 months 15 days

$$\begin{array}{r} 4 \text{ y } 5 \text{ m } 6 \text{ d} \\ + 6 \text{ y } 2 \text{ m } 15 \text{ d} \\ \hline 10 \text{ y } 7 \text{ m } 21 \text{ d} \end{array}$$

2. Subtract the following

a) 10 h 45 min 50 sec - 6 h 12 min 36 sec

$$\begin{array}{r} 10 \text{ h } 45 \text{ m } 50 \text{ sec} \\ - 6 \text{ h } 12 \text{ m } 36 \text{ sec} \\ \hline 4 \text{ h } 33 \text{ m } 14 \text{ sec} \end{array}$$

b) 36 h 22 min 40 sec - 14 h 5 min 6 sec

$$\begin{array}{r} 36 \text{ h } 22 \text{ m } 40 \text{ sec} \\ - 14 \text{ h } 5 \text{ m } 6 \text{ sec} \\ \hline 22 \text{ h } 17 \text{ m } 6 \text{ sec} \end{array}$$

c) 25 years 8 months 23 days - 19 years 5 months 16 days

$$\begin{array}{r} 25 \text{ y } 8 \text{ m } 23 \text{ d} \\ - 19 \text{ y } 5 \text{ m } 16 \text{ d} \\ \hline 6 \text{ y } 3 \text{ m } 07 \text{ d} \end{array}$$

3. Ahmed travels 5 h 24 min 15 sec in a bus. Then he travels 3 h 12 min 6 sec in a train.

a) How much time does he travel for altogether?

$$\begin{array}{r} 5 \text{ h } 24 \text{ m } 15 \text{ sec} \\ + 3 \text{ h } 12 \text{ m } 6 \text{ sec} \\ \hline 8 \text{ h } 36 \text{ m } 21 \text{ sec} \end{array}$$

Ahmed travel for 8 h 36 m 21 s altogether.

b) How much more time does he travel by bus than by train?

$$\begin{array}{r} 5 \text{ h } 24 \text{ m } 15 \text{ sec} \\ - 3 \text{ h } 12 \text{ m } 6 \text{ sec} \\ \hline 2 \text{ h } 12 \text{ m } 9 \text{ sec} \end{array}$$

Ahmed travels 2 h 12 m 9 sec more by bus than by train.

4. Mina completed her homework in 3 h 25 min. Zara completed her homework in 2 h 10 min. How much more time did Mina take than Zara to complete her work?

$$\begin{array}{r} 3 \text{ hr } 25 \text{ min} \\ - 2 \text{ hr } 10 \text{ min} \\ \hline 1 \text{ hr } 15 \text{ min} \end{array}$$

Mina took 1 hr 15 min more than Zara to complete her work.

5. Hina made biryani in 2 h 20 min. She also made a cake in 4 h 38 min. How much more time she spent making the cake than the biryani?

$$\begin{array}{r} 4 \text{ hr } 38 \text{ min} \\ - 2 \text{ hr } 20 \text{ min} \\ \hline 2 \text{ hr } 18 \text{ min} \end{array}$$

Hina spent 2 hr 18 min more in making the cake than the biryani.

6. Mr Tariq worked for 7 h 10 min on Thursday. He worked for 6 h 40 min on Friday. How much time did he work for altogether? Give your answer in minutes.

$$\begin{array}{r} 7 \text{ hr } 10 \text{ min} \\ + 6 \text{ hr } 40 \text{ min} \\ \hline 13 \text{ hr } 50 \text{ min} \end{array}$$

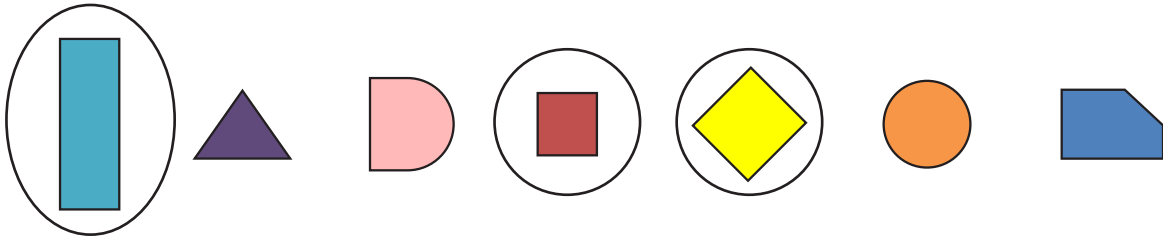
Mr Tariq worked for 13 hr 50 min

**Unit
9**

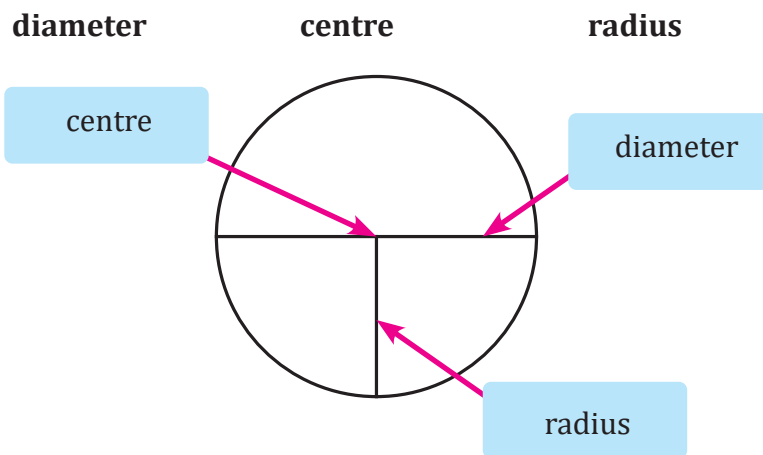
Geometry

Recap Exercise

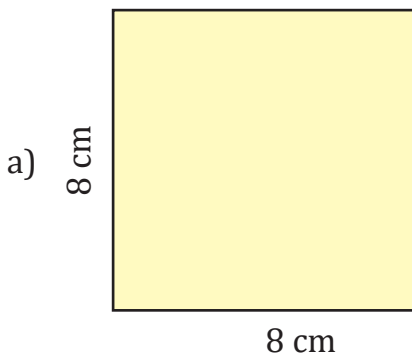
1. Encircle the shapes that are quadrilaterals.



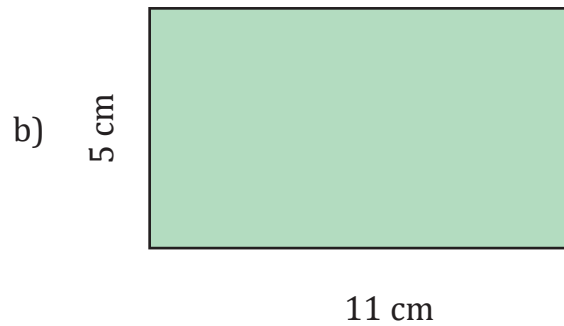
2. Label the figure using the words given below.



3. Find the perimeter of each given shape.

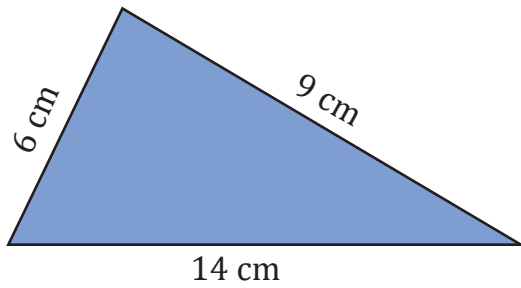


Perimeter = 32 cm



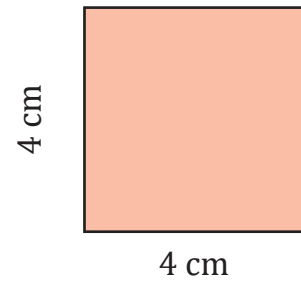
Perimeter = 32 cm

c)



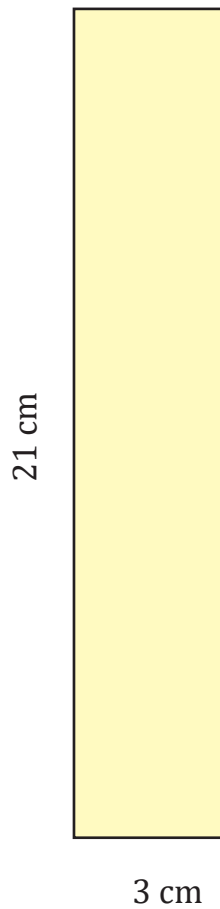
Perimeter = 29 cm

d)



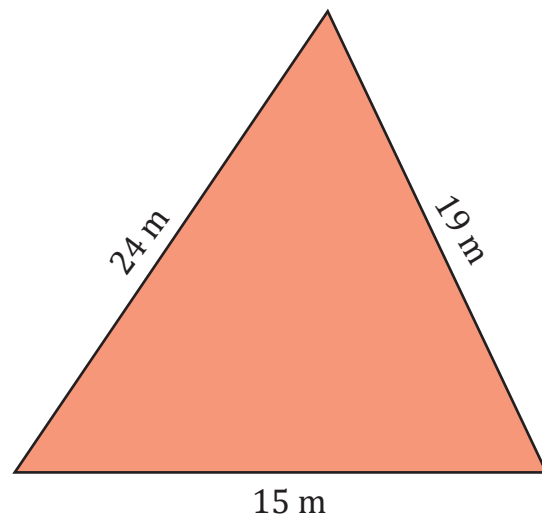
Perimeter = 16 cm

e)



Perimeter = 48 cm

f)



$$24 + 15 + 19$$

Perimeter = 58 cm

4. Match the shapes to their names.

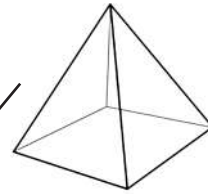
a) cube



b) cuboid



c) cylinder



d) sphere



e) cone

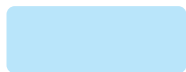
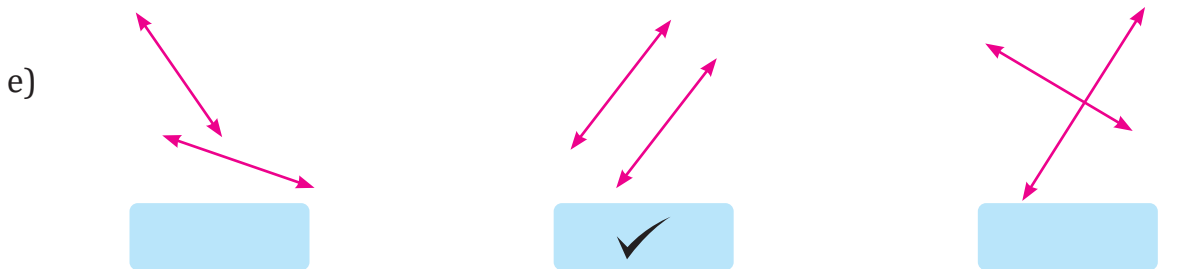
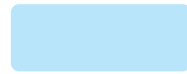
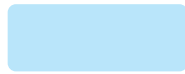
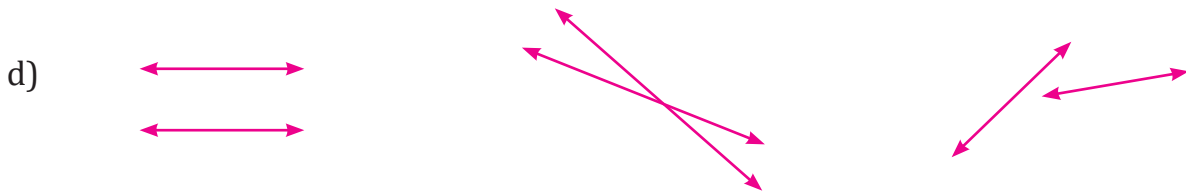
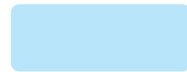
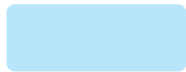
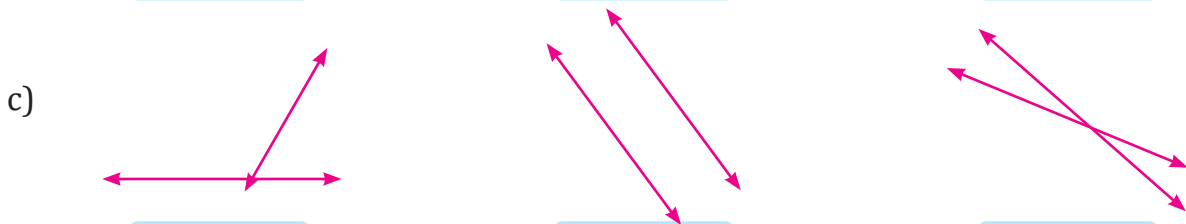
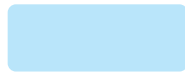
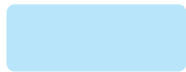
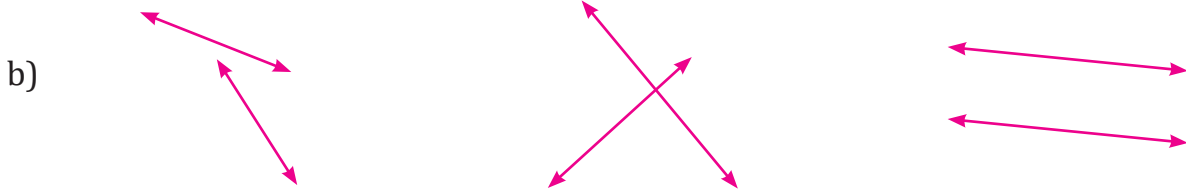
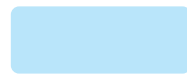
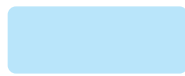
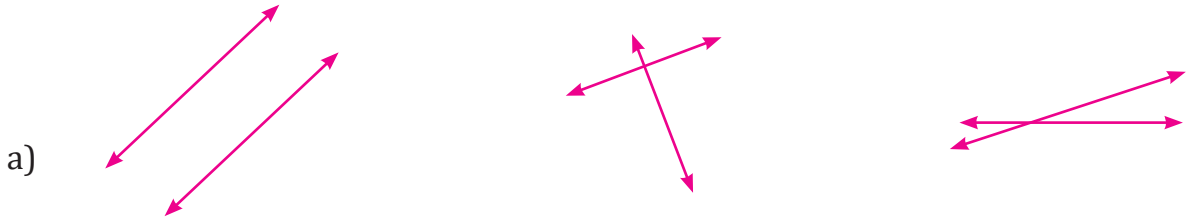


f) pyramid



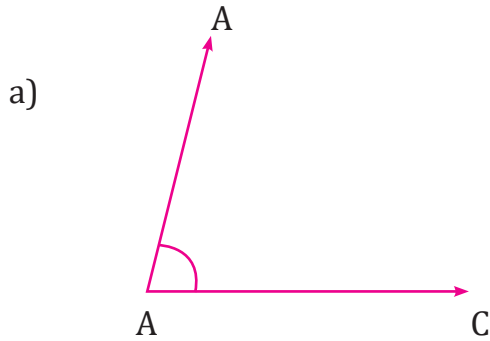
Exercise 1

1. Identify the pair of lines that are parallel to each other. Choose the correct picture.

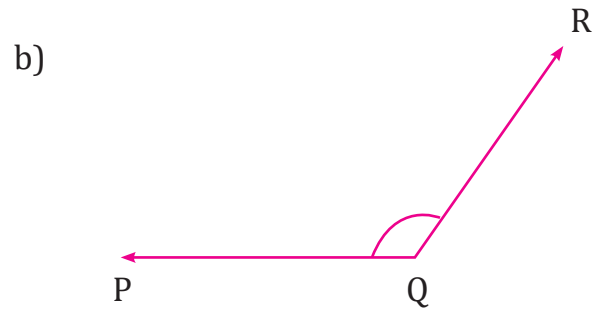


Exercise 2

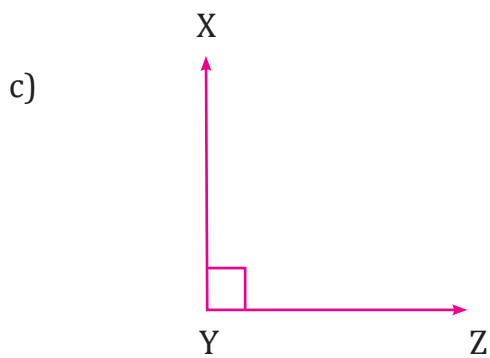
1. Measure the following angles.



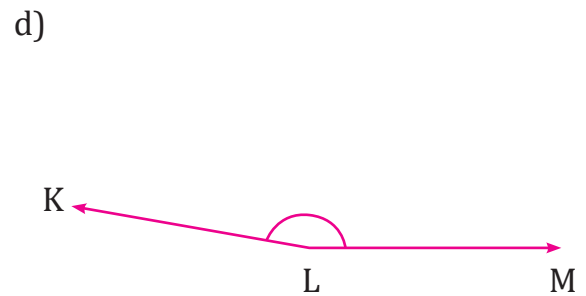
$$m\angle ABC = 70^\circ$$



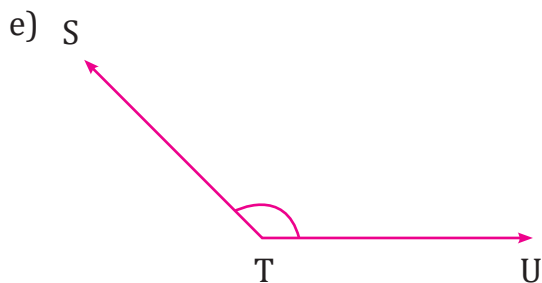
$$m\angle PQR = 125^\circ$$



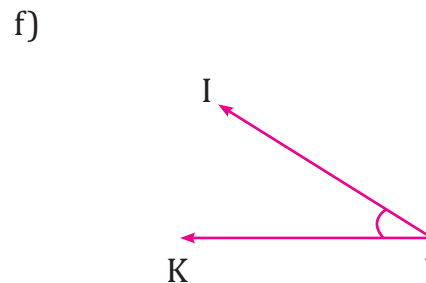
$$m\angle XYZ = 90^\circ$$



$$m\angle KLM = 170^\circ$$



$$m\angle STU = 140^\circ$$



$$m\angle IJK = 30^\circ$$

Exercise 3

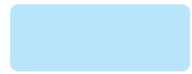
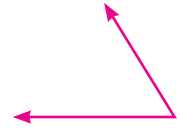
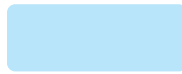
1. Identify the right angle from each group of angles.

a)			
	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>
b)			
	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>
c)			
	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>

2. Identify the obtuse angle from each group of angles.

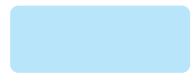
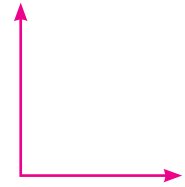
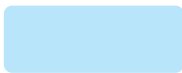
a)			
	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>
b)			
	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>

c)

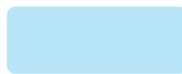
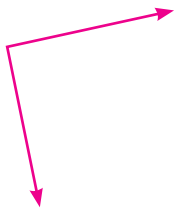


3. Identify the acute angle from each group of angles.

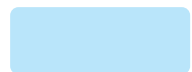
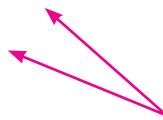
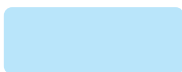
a)



b)

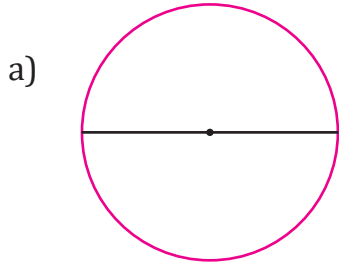


c)

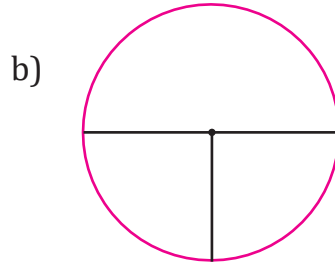


Exercise 4

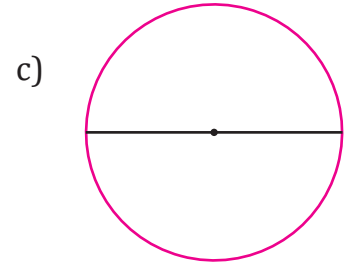
1. Draw the given parts in each figure.



A centre

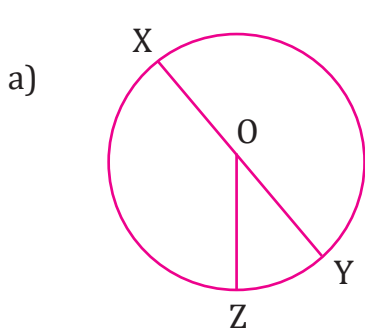


A radius



A diameter

2. Identify the radius and diameter in each figure.

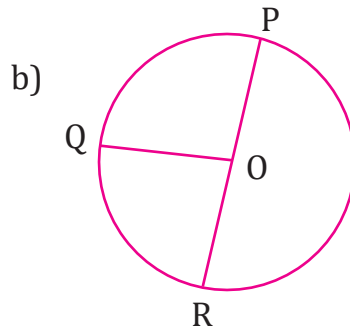


Radius:

OZ

Diameter:

XY

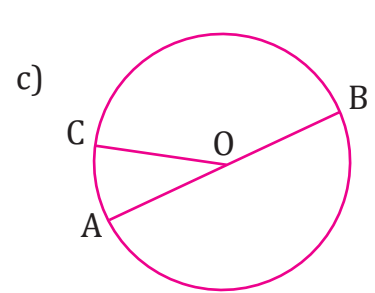


Radius:

OQ

Diameter:

PR



Radius:

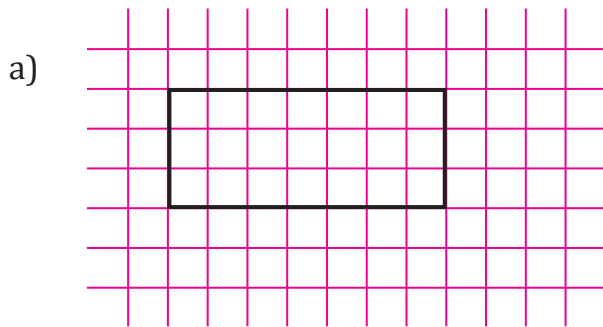
OC

Diameter:

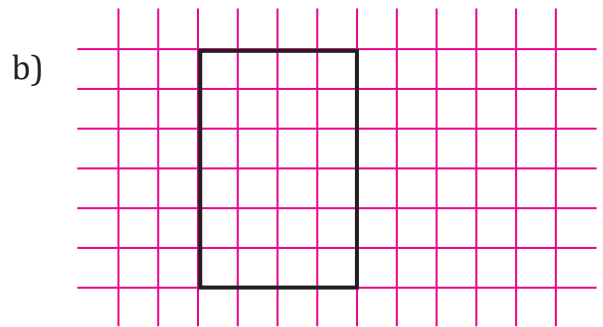
AB

Exercise 5

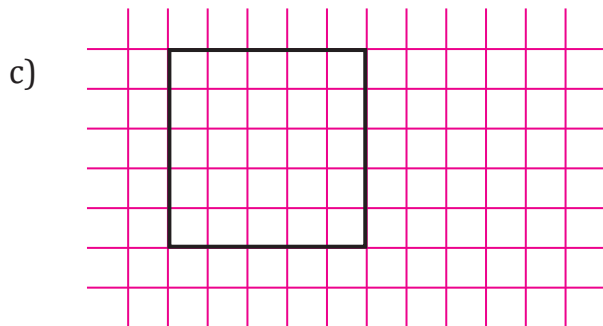
1. Find the perimeter of each given shape. Each small square is 1 cm.



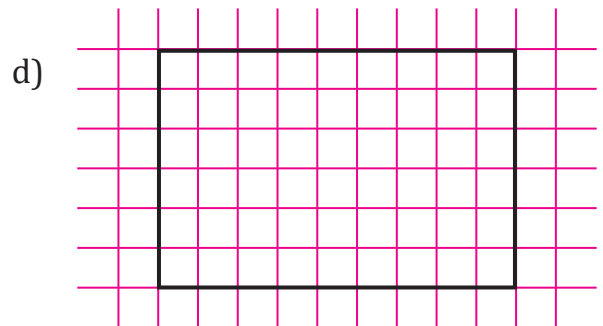
Perimeter = 21 cm



Perimeter = 24 cm

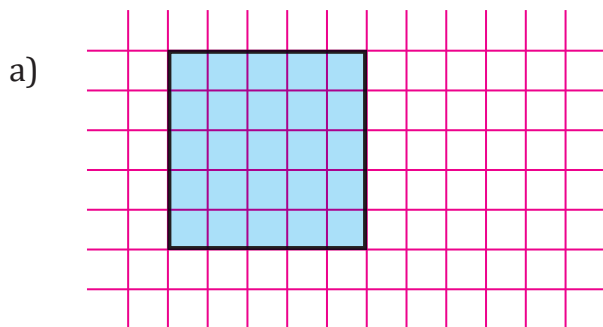


Perimeter = 25 cm

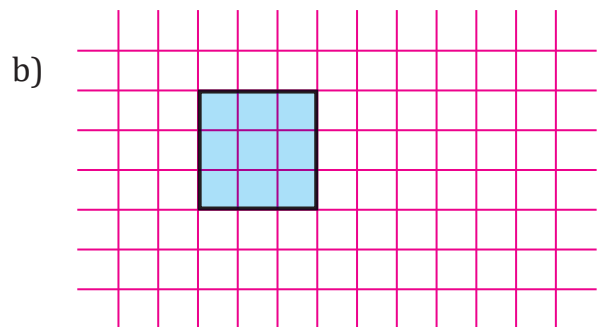


Perimeter = 54 cm

2. Find the area of each figure below. Each small square is 1 cm^2 .



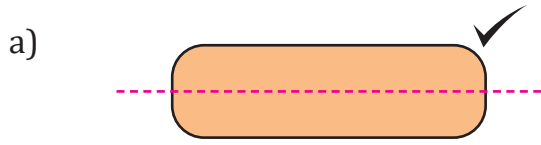
Area = 25 cm



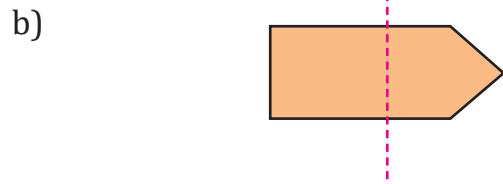
Area = 9 cm

Exercise 6

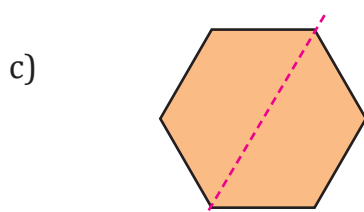
1. Are the given figures symmetrical? Tick (✓) yes or no.



Yes No



Yes No

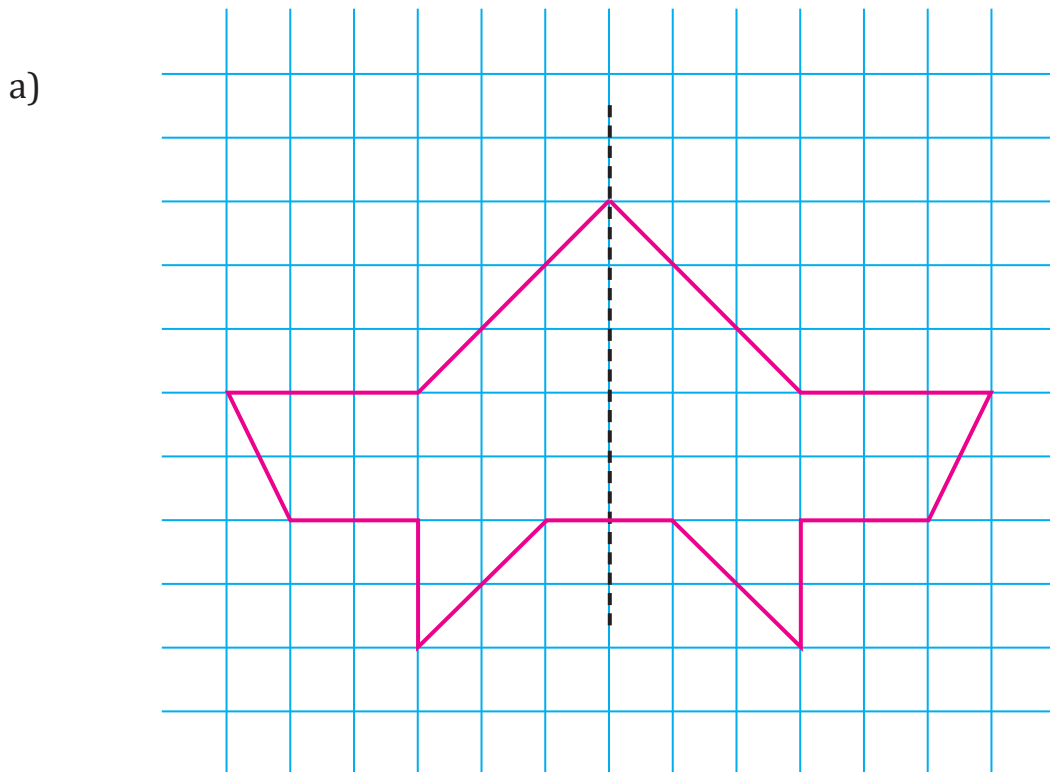


Yes No

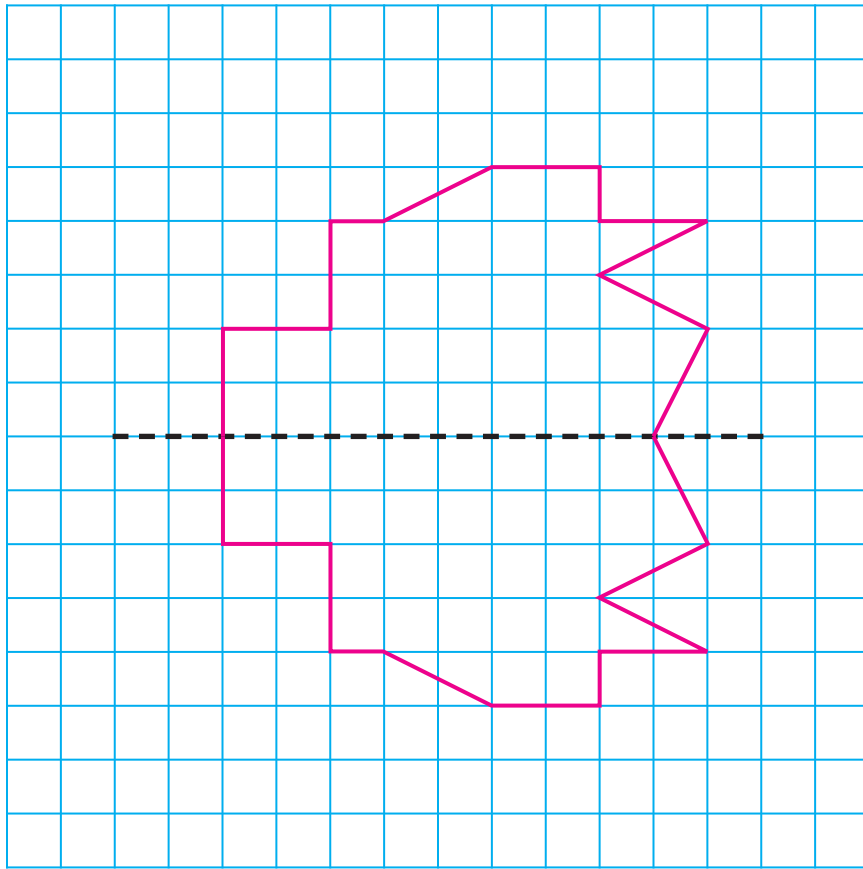


Yes No

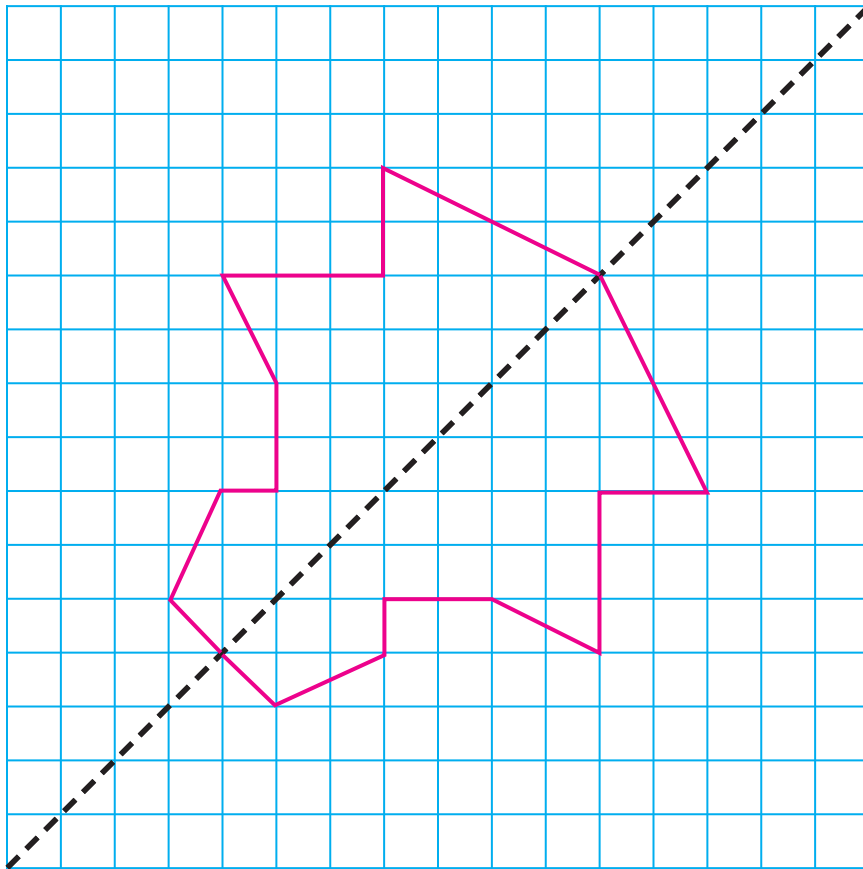
2. Complete the given symmetrical figures.



b)

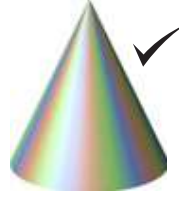


c)



Exercise 7

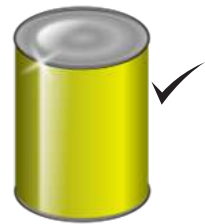
1. Tick the ones that have curved faces.



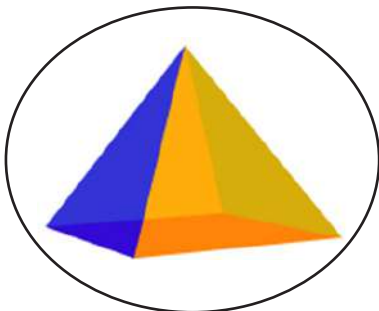
2. Encircle the ones that have flat faces.



3. Tick the ones that have flat and curved faces.



4. Encircle the ones that have only flat faces.



5. Write two characteristics for each of the following shapes.

a) cylinder

(i) Cylinder has 2 flat face that are circles

(ii) Cylinder has no vertex

b) cuboid

(i) Cuboid has 6 flat faces

(ii) Cuboid is also called prism

c) pyramid

(i) Pyramid has apex

(ii) Pyramid has 4 flat faces that are triangle

d) cone (i)

(i) Cone has 1 flat face that is circle

(ii) Cone has 1 pointed vertex

e) sphere

(i) Sphere has 1 round face

(ii) Sphere has no vertex no edges

Unit 10

Graphs

Recap Exercise

1. Complete the Carroll diagram given below.

39 ~~28~~ 12 18 49 45 63 60 ~~14~~ 40 59 35

	Even numbers	Odd numbers
Numbers in the Table of 7	14, 28	49, 63, 35
Numbers not in the Table of 7	12, 18, 60, 40	39, 45, 59

2. The given tally chart shows the items Mrs. Tahir buys at a bakery.

Item	Tally marks	Number of items
cupcake	//// /	6
sandwich	/////	5
pizza slice	////	4
samosa	//// //	10



a) How many sandwiches does she buy?

5

b) How many more samosas than cupcakes does she buy?

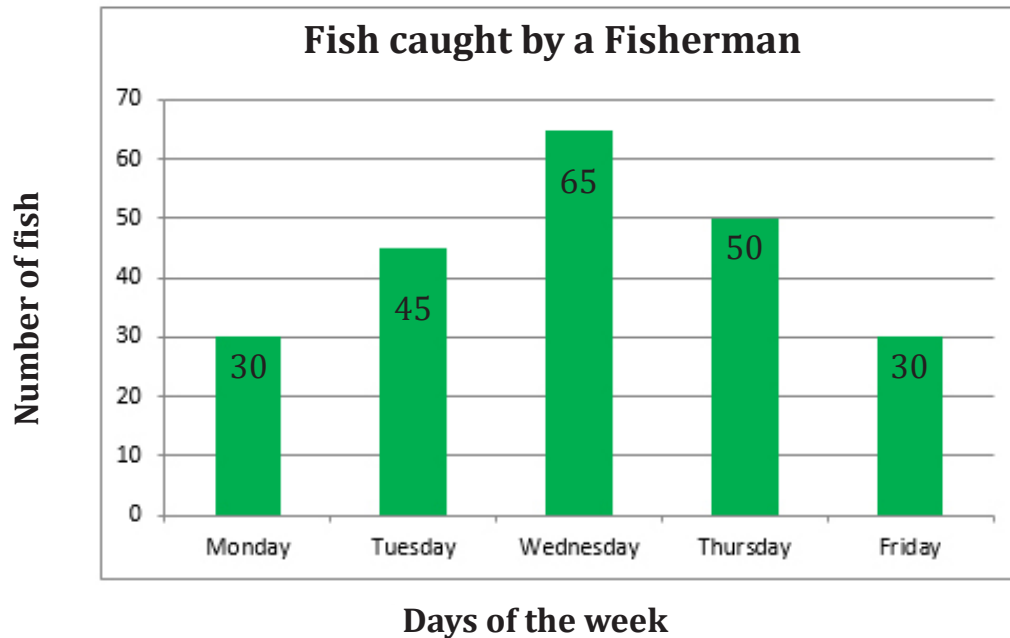
4

c) How many items does she buy altogether?

25

Exercise 1

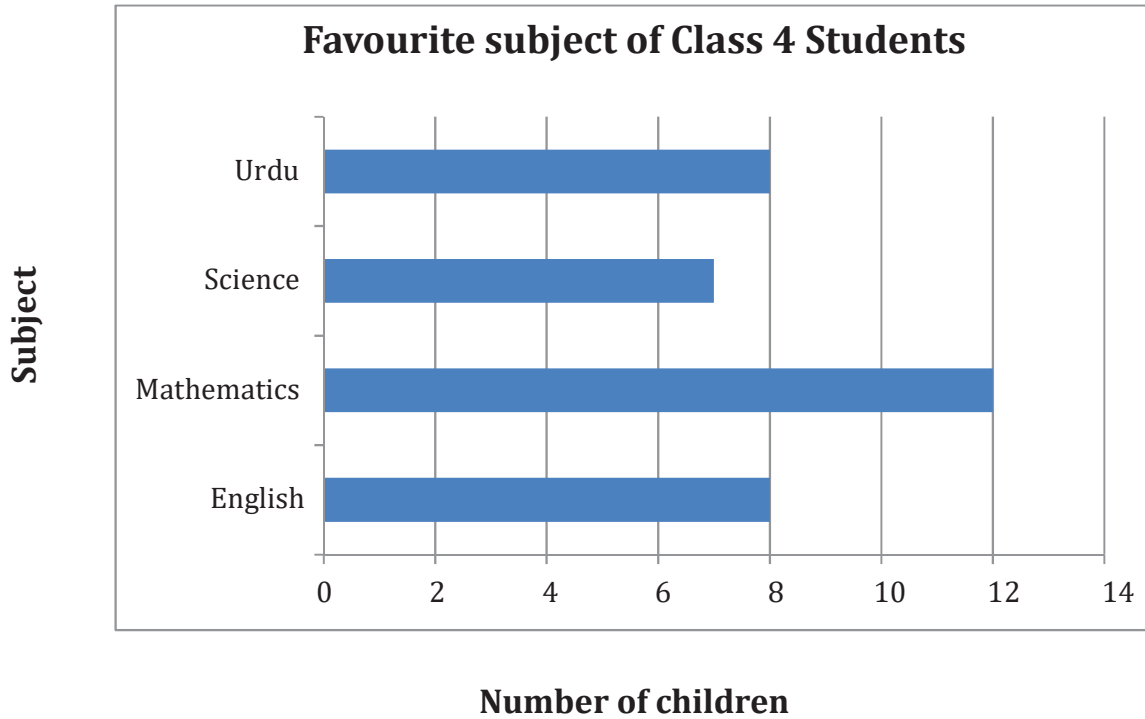
1. The graph shows the number of fish caught by a fisherman on five days.



Use the graph to answer the following questions.

- (a) The fisherman caught the most fish on **Wednesday**
- (b) The fisherman caught **45** fish on Tuesday.
- (c) He caught the same number of fish on **Monday** and **Friday**
- (d) He caught **35** more fish on Wednesday than Monday.
- (e) He caught **220** fish altogether during the five days.

2. The graph shows the favourite subject of Class 4 students.

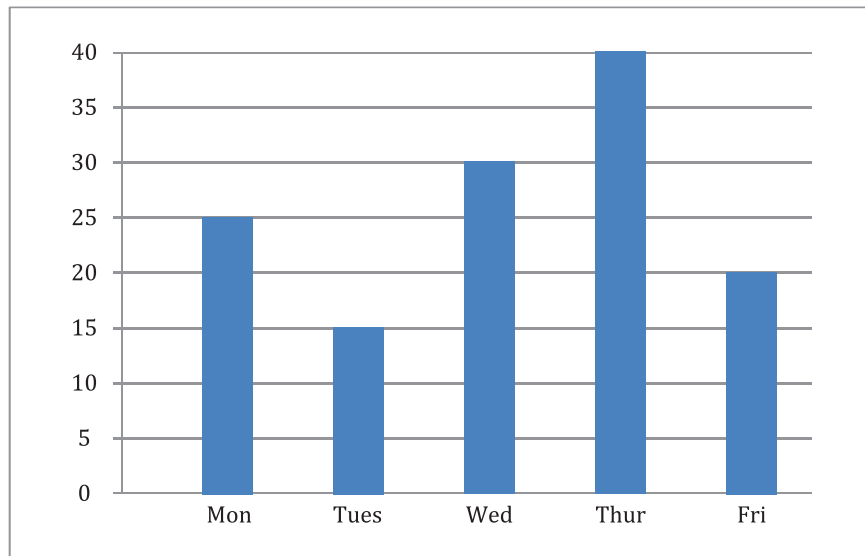


Answer the following questions.

- a) Which is the most favourite subject? **Mathematics**
- b) How many children like Urdu? **8**
- c) How many more children like Maths than Science? **5**
- d) How many children like English and Urdu? **16**
- e) How many children are there altogether? **35**

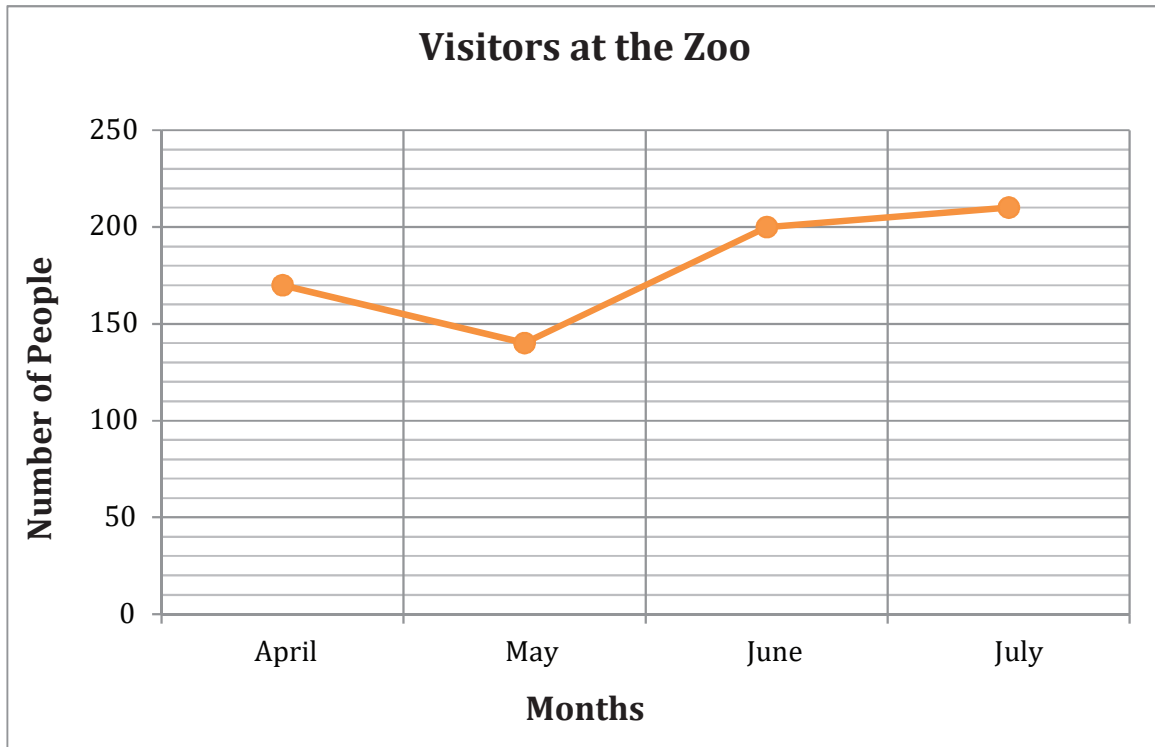
3. A gardener planted rose plants in his garden in five days. Draw a bar chart to represent the following information.

Planting Rose plants					
Days	Monday	Tuesday	Wednesday	Thursday	Friday
Number of Rose plants	25	15	30	40	20



Exercise 2

1. The given graph shows the number of people who visited the zoo during four months.



Use the graph to answer the following questions.

- (a) Copy and complete the table using the data from the graph.

Months	April	May	June	July
Number of people	170	140	200	210

- (b) Which month had the least number of visitors? May
- (c) How many visitors came in April? 170
- (d) How many more visitors were at the zoo in June than in May? 60
- (e) The most number of visitors came in July

2. The given table shows the sale of flowers at a flower shop during a week.

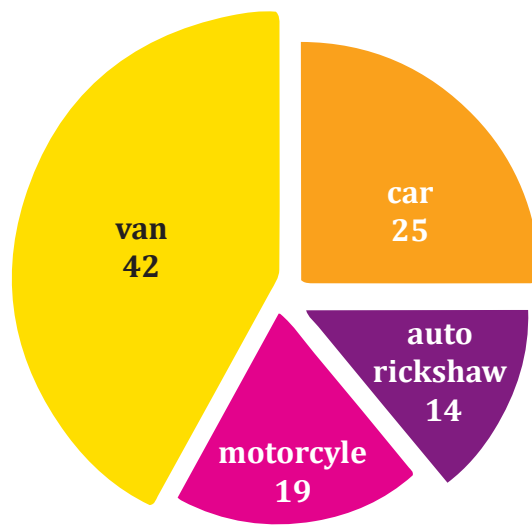
Days	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Number of flowers	65	70	94	88	38	67	50

- a) Make a line graph to represent the data.
- b) The most number of flowers are sold on
- c) The least number of flowers are sold on
- d) How many more flowers are sold on Thursday than on Friday?
- e) How many flowers are sold on Monday and Tuesday?

Exercise 3

1. The pie chart shows how 100 children come to school.

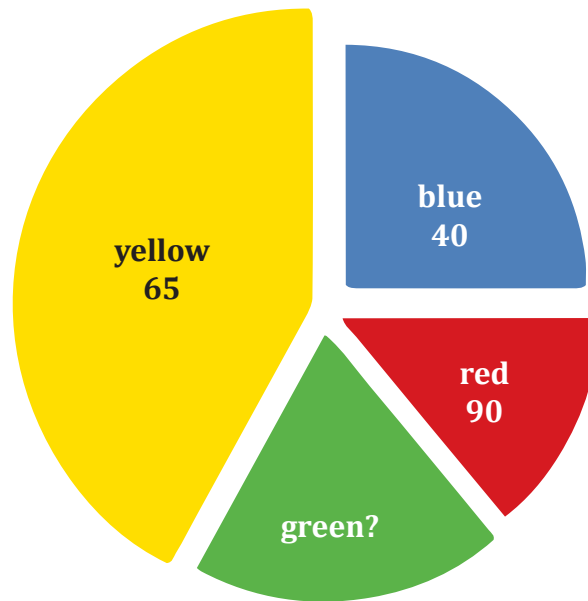
Transport to School



Use the chart to answer the following questions.

- a) How many children come to school by motorcycle?
- b) Which is the most common mode of transport?
- c) How many more children come by car than auto rickshaw?
- d) How many children come to school by car and van?

2. The pie chart shows the number of different colored blocks Sami has in his toy box. He has 220 blocks altogether.



Use the chart to answer the following questions.

- a) How many green blocks does he have? 25
- b) Which colored blocks are most in number? yellow
- c) How many more red blocks does he have than green blocks? $90 - 25 = 65$
- d) How many blue and yellow blocks does he have? $40 + 65 = 105$