CHRIST KING HR. SEC. SCHOOL KOHIMA

CLASS: 5 A/B

Subject: Mathematics

Chapters for 3rd term;

9. Shapes, Patterns and Nets.

13. Time and Temperature.

15. Handling Data.

13. Time and Temperature.

Exercise 13.1

1. Change to minutes. (1 hour= 60 minutes)

a) 8 hours

= 8×60 {Since 1hr=60 min}

= 480 minutes

f. 4 hours 42 minutes

= 4 × 60 + 42 {since 1 hr= 60 min and add 42 min}

= 240 minutes + 42 minutes

= 282 minutes

```
  60
 × 8
 480

  60
 ×4
 240
+42
 282
```

2. Change to hours and minutes.

a. 720 minutes

= 720 minutes =? Hours

```
          1 2  ⟶ hours
Min ▶  60 | 7 2 0
        - 6 0
        -----
          1 2 0
        -1 2 0
        -------
          0 0 0
```

= 720 minutes = 12 hours

f. 500 minutes

```
          8 ⟶ hours
        -----
      60 | 5 0 0
        -4 8 0
        -------
          2 0 ⟶ Minutes
```

= 500 minutes = 8 hours 20 minutes

3. Change to seconds. (1 minute= 60 seconds)

a) 13 minutes

13 min = ? sec

= 13 × 60 {1 min. = 60 sec.}

= 780 seconds

d. $10\frac{1}{2}$ minutes

$10\frac{1}{2}$ min = ? sec

```
  6 0
× 1
-----
  6 0

  6 0
× 2
-----
  1 2 0

  6 0
× 8
-----
  4 8 0

  1 3
×6 0
-----
  0 0
+7 8
-----
  7 8 0
```

$= 10\frac{1}{2} \times 60$ sec {1min. = 60 sec}

$= 10 \times 60 + 30$ { $\frac{1}{2} = 30$}

= 630 seconds

$\frac{1}{2}$ of 60 =?

$\frac{1}{2} \times 60 = \frac{60}{2}$

= 30

1 0
× 6 0
0 0
+ 6 0
6 0 0
+3 0
6 3 0

4. Application in real life.

a) A television program had 11 minutes of advertisements in it

many seconds were the advertisements for?

(Hint: Change to seconds 11 minutes*)*

b) It takes Manisha 38 seconds to climb up the steps of her ho

In one week if she spends 504 seconds doing this, how many

Minutes has she spent climbing up the steps?

(Hint: Change to hours and minutes 504 ÷ 60*)*

c) An advertisement on radio lasted for 30 seconds. If the same advertisement is played daily for 10 days, for how many minutes will it played?

Sol: Advertisement lasted = 30 sec.

If lasted 10 days = ? sec

= 30 × 10

= 300 sec

10 days advertisement =? min

= 300 ÷ 60 minutes

= 5 minutes

5
60 | 3 0 0
-3 0 0
0 0 0

d) Smriti jogged for 1 $\frac{1}{2}$ hour on Monday and 90 minutes on Tuesday. On which day did she jog longer?

Sol: Smriti jogged on,

Monday = 1 $\frac{1}{2}$ hour {Change to minutes}

= 60 + 30 { $\frac{1}{2}$ of 60 is 30}

= 90 minutes

Tuesday = 90 minutes

∴ She jogged for the same time both days.

Exercise 13.2

1. a) 5 min 30 s + 5 min 30 s

(1)

= 5 min 3 0 s

+5 min 3 0 s {Since 1 min =60 s, from the s, 1 is added to min}

1 1 min 0 0 s

c. 2 h 25 min + 45 min

(1)

= 2 h 2 5 min {1 hr = 60 min}

\+ 4 5 min {since its 70, (70-60=10)}

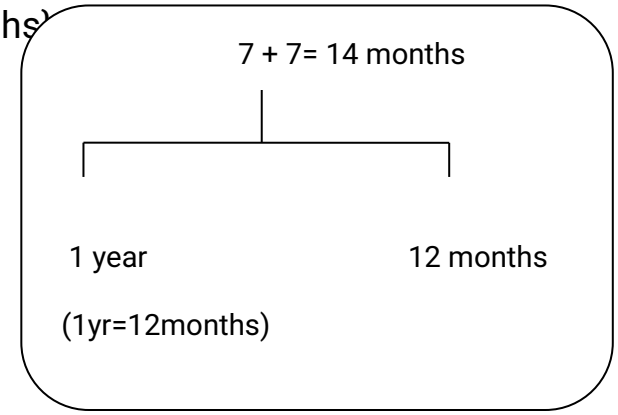
3 h 1 0 min

f) 10 years 7 months + 11 years 7 months

= 1 0 years 7 months {1 year= 12 months}

+1 1 years 7 months

2 2 years 2 months



2. a) 8 min 10 s – 7 min 2s

= 8 min 1 0 s

- 7 min 2 s

1 min 8 s

c) 9 h 20 min – 3 h 40 min

{9 h 20 min is regrouped to 8 h 80 min}

= 8 h 8 0 min

-3 h 4 0 min

5 h 4 0 min

The regrouped is use when we cannot subtract80 min from 40 min. so regroup 1 h to 60 min.

Eg. We cannot subtract

9h**20**min therefore, 9h20min is regroup as

-3h**40**min 8h80min {9h-1=8, 1 h=60min

20min+60min=80min}

3. Application in real life.

a) Anisha practiced for her school elocution

competition for 35 minutes on one day and 45 minutes on the next day. How long did she practice in all?

Sol: First day = 3 5 min

Next day =+4 5 min

= 8 0 min

= 1 hour 20 minutes {1 h =60 min ∴ 80-60=20}

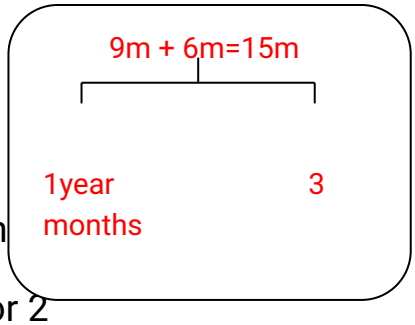
b. Haresh went to school for 11years 6 months and college for 5 years 9 months. How many years of education is that?

Sol: (1)

School = 1 1 years 6 months

College =+ 5 years 9 months

1 7 years 3 months



∴ He studied for 17 years 3 month

c. A postman delivered parcels for 2

hours 15 minutes and letters for 3 hours 45 minutes. For how long was he on the beat (1)

Sol: Letter = 3 hours 4 5 minutes

Parcel = +2 hours 1 5 minutes {45+15=60, 1h=60min}

6 hours 0 0 minutes

∴ 6 hours

d) Jayashree could swim a particular length in 3 minutes 22 seconds. After some practice, she could swim the same length in 2 minutes 40 seconds. By how much time had her speed improved?

Sol: Jayashree swim = 3 min 22 s

After practice = 2 min 40 s

Time improved= 2 min 8 2 s{we cannot subtract 40 from 22. So 3min22s

- 2 min 4 0 s regroup to 2min82s}

0 min 4 2 s

∴ Her speed improved by 42 seconds

e. A normal train from Chennai to Bangalore takes 6 hours 10 minutes. The Shatabdi Express takes 4 hours 45 minutes. How much time do you save by travelling on the Shatabdi?

Sol: Normal train = 6 hours 10 minutes

Shatabdi Express = 4 hours 45 minutes

Time difference = 5 hours 7 0 minutes

- 4 hours 4 5 minutes

1 hours 2 5 minutes

We cannot subtract 45 from 10 (10-45). So we regrouped it to 5 hours 70 minutes.

∴ You save 1 hour 25 minutes by travelling on the Shatabdi Express.

Exercise 13.3

1. Fill in the missing information. Use a.m. or p.m.

To find the finishing time

Starting time + Elapsed time

To find starting time:

Finishing time –

	Starting time	Elapsed time	Finishing time
a)	1:05 p.m.	4 hours 40 minutes	5:45 p.m.
b)	11:15 a.m.	2 hours 45 minutes	2:00 p.m.
c)	12:45 p.m.	5 hours 15 minutes	6:00 p.m.

d)	12:00 p.m.	3 hours 20 minutes	3:20 a.m.

2.

	Starting date	Duration	Finishing date
a)	21st May	16 days	5th June
b)	19th January	19 days	6th February
c)	21st March	13 days	2nd April
d)	17th April	24 days	10th May

To find the finishing date:

Count forward :

21st May to 31st May= 11 days

16 days- 11 days = 5 days

5days after 31st May=5th June

To find the starting date

Count back in parts;

2 April to 1 April=2 days

13 days-2 days= 11 days

11 days before 1 April = 21st March.

3. Application in real life.

a. Apoorva's school sports day is on March 20th. He wants to start practicing 30 days earlier. When should he start? (Take February to have 28 days.)

Sol: Sports day = 20th March

Duration= 30 days

Starting date= ?

Let us count back in parts to find the starting date,

= 20th March to 1st March = 20 days

= 30 days – 20 days = 10 days

= 10 days before 1st March takes us to 19th February.

{ 28,27,26,25,24,23,22,21,21,19}

10 days

b) Nikhil's birthday party started at 11:45 a.m. and finished 3 hours 40 minutes later. When did the party finish?

Sol: Party started = 11:45 a.m.

Elapsed = 3 h 40 min

Finishing time = ?

Finishing time = Starting time + Elapsed time

Finishing time = 11:45 a.m. + 3 h 40 min

= 1 1 : 4 5 a.m.

\+ 3 : 4 0

1 5 : 2 5 p. m. or 3 : 25 p.m.

Let us add hour and minutes separate

1

1 1 4 5

\+ 3 + 4 0

1 5 h 8 5

- 6 0 (1 hour)

2 5 min

(15 h change to 12-hour clock i.e, 12,13,14,15

12, 1, 2, 3)

c) Meera started knitting a muffler on Independence Day. If she completed it in 25 days, on which day did she finish it?

Sol: Starting date = Independence Day or 15 August

Duration = 25 days

Finishing = ?

= 25 days - 17 days {15 August to 31 August = 17 days}

= 8 days

= 8 days after 31 August takes us to 8th September

∴ She finished it on 8th September.

d) Prachi started practicing the veena at 1:15 p.m. and finished 1 hour 20 minutes later. What time did she finish?

Sol: Starting time = 1:15 p.m.

Elapsed time = 1 hour 20 min

Finishing time = ***Starting time + Elapsed time***

= 1:15 + 1h20min

1 : 1 5
+1 : 2 0
2 : 3 5

= 2:35 p.m.

∴ She finished at 2:35 p.m.

e) Madhur joined a 2-week driving class that got over on September 3rd. When did it began?

Sol: Starting date = ?

Duration = 2 weeks {1 week = 7 days}

= 7 × 2

= 14 days

Finishing date = September 3rd

To find,

Starting Date, count back in parts.

= 3^{rd} Sept. to 1^{st} Sept.

= 3 days

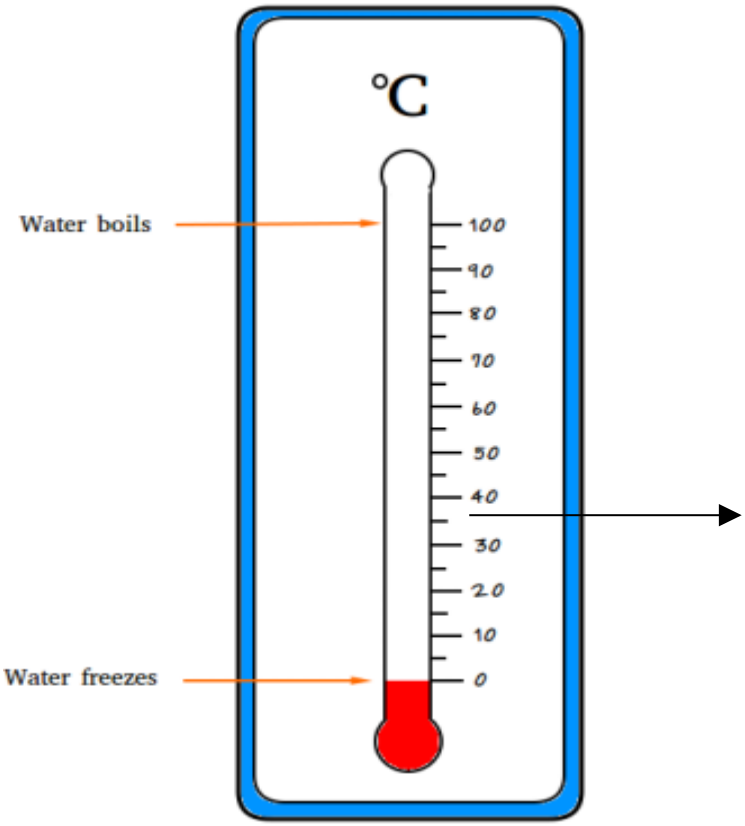
= 14 days – 3 days

= 11 days

= 11 days before 1s Sept. is 21^{st} August

∴ Madhur begin the class on 21^{st} August.

Exercise 13.4



1. Circle the temperature that is close to the situation described. One has been done for you.

a) Warm day

(35°C) / 5°C

b) Hot bath

(42°C) / 10°C

c) Hot milk

(45°C) / 15°C

d) Cold drink

(5°C) / 30°C

e) Ice

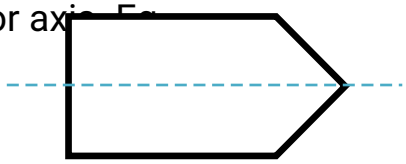
(0°C) / 100°C

f) Feverish person

(38.5°C) / 35.8°C

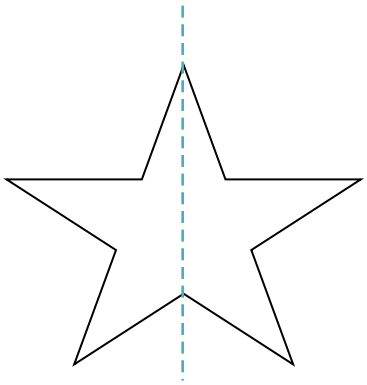
9. Shapes, Patterns and Nets.

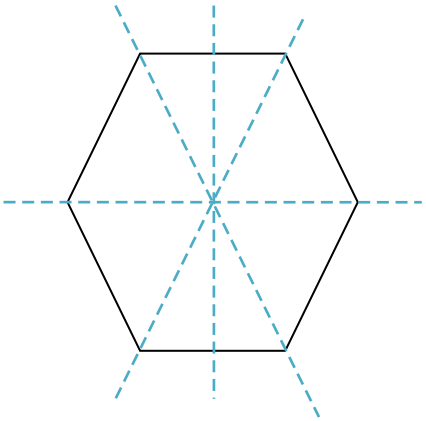
Symmetry: Exact correspondence on either side of a dividing line, plane, center or axis. Eg:



Exercise 9.1

1. Draw the lines of symmetry for these shapes.



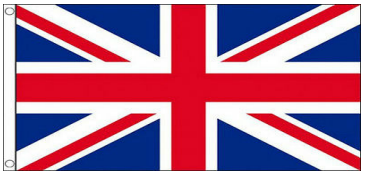


The dotted lines here are the lines of symmetry.

2. Look at these flags and say whether they have 0, 1 or 2 lines of symmetry.

a) 

Australian Flag 0

b 

United Kingdom fl 2

c) 

Indian flag [2]

d) 

South Korea flag [0]

e) 

Canadian flag [1]

f) 

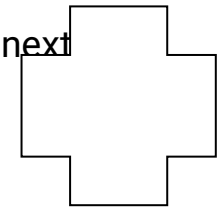
Japanese flag [2]

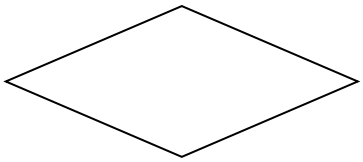
3. Use a mirror on the red line to draw the reflection of the shape

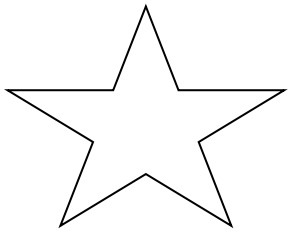
(Here in question no. 3 use a mirror and try drawing the shapes and in question no. 4 draw any design on the Easter Egg, you can use a mirror to make the lines look same in both the sides.)

Exercise 9.2

1. Which of these shapes will look the same after $\frac{1}{4}$ turn? Put a tick (✔)

next 

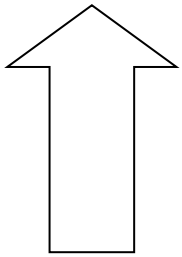


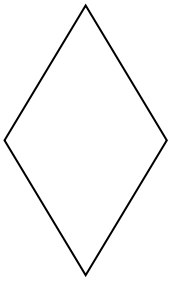


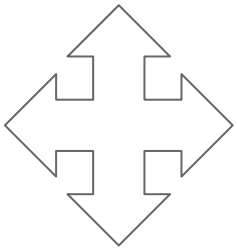
{ ✔ }

{ ✔ }

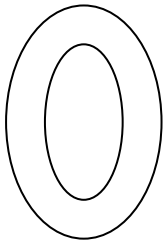
2. Which of these shapes will look the same after $\frac{1}{2}$ turn? Put a tick mark (✔) next to it.





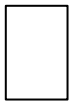
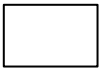
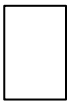
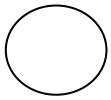
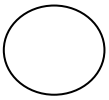
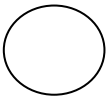
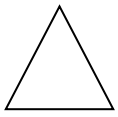
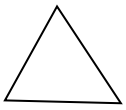
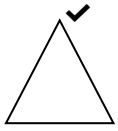
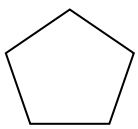
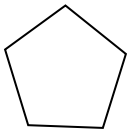
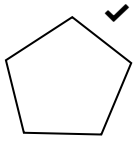


(✔)



(✔)

3. Draw how these shapes will look after these turns. Tick (✔) those which looks the same after the turn,

Shapes	$\frac{1}{4}$ turn	$\frac{1}{2}$ turn
		
		✔ 
		✔ 
		✔ 
		✔ 

4. Which six letters of the English alphabet look the same after half a turn?

Ans. H, I, N, O, X and Z.

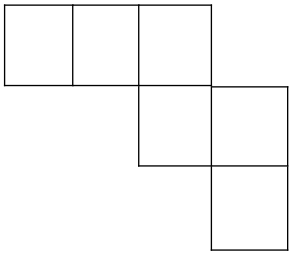
5. Circle the numbers that look the same on half a turn.

11 ,88 ,18 ,808,118 ,818 ,1001 ,1100 ,1881

Exercise 9.4

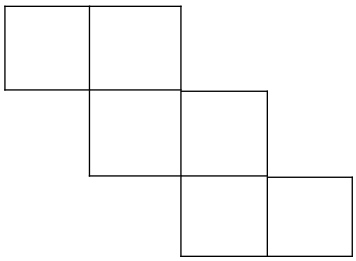
1. Which of these nets can be folded to make cubes?

a)

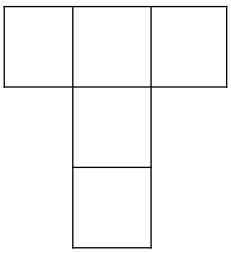


b)

(✔)



c)

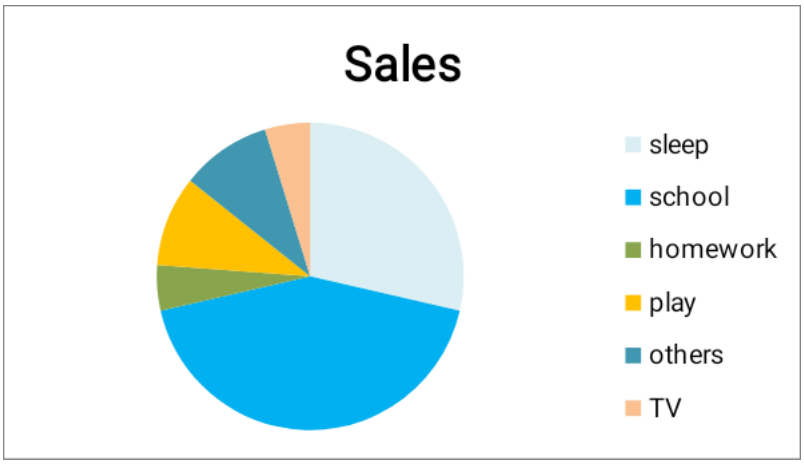


15. Handling Data

Exercise 15.1

1. The circle graph shows how Rishabh spent his day.

A day has 24 hours. The circle has been divided into 8 equal parts with dotted lines. So each part represents 3 hours. You can fill in the details on the table with the help of the circle graph.

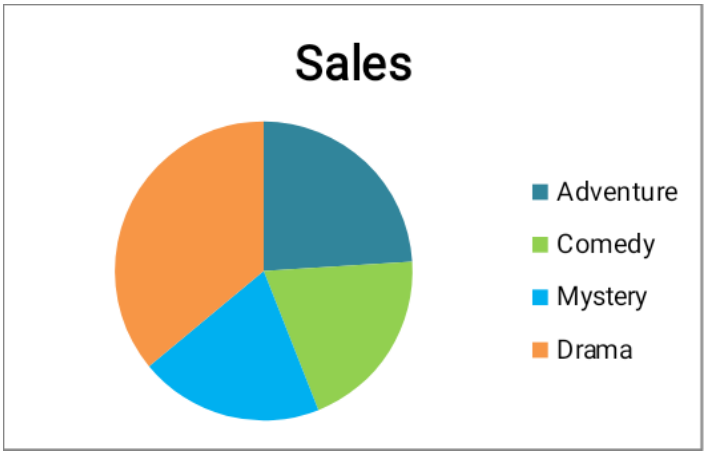


6 hours	Sleep
9 hours	School
1 hour	Homework
2 hours	Play
5 hours	Others
1 hour	TV

2. 100 people were asked which kind of movies were their favourite. Look at the table that gives their replies, and color and lable the circle graph accordingly.

Adventure	24

Comedy	20
Mystery	20
Drama	36



Exercise 15.2

1. Complete the tally chart.

Number of hours the students of class V watch TV in a day. (𝍸 this means 5)

Number of hours	Tally marks	Number of students
Less than $\frac{1}{2}$ hour	II	2
Between $\frac{1}{2}$ and 1 hour	𝍸 𝍸 IIII	14
Between 1 and 2 hours	𝍸 𝍸 𝍸 II	17
Between 2 and 3 hours	𝍸 𝍸	10
More than 3 hours	III	3

2. Build a tally chart using these pictures.

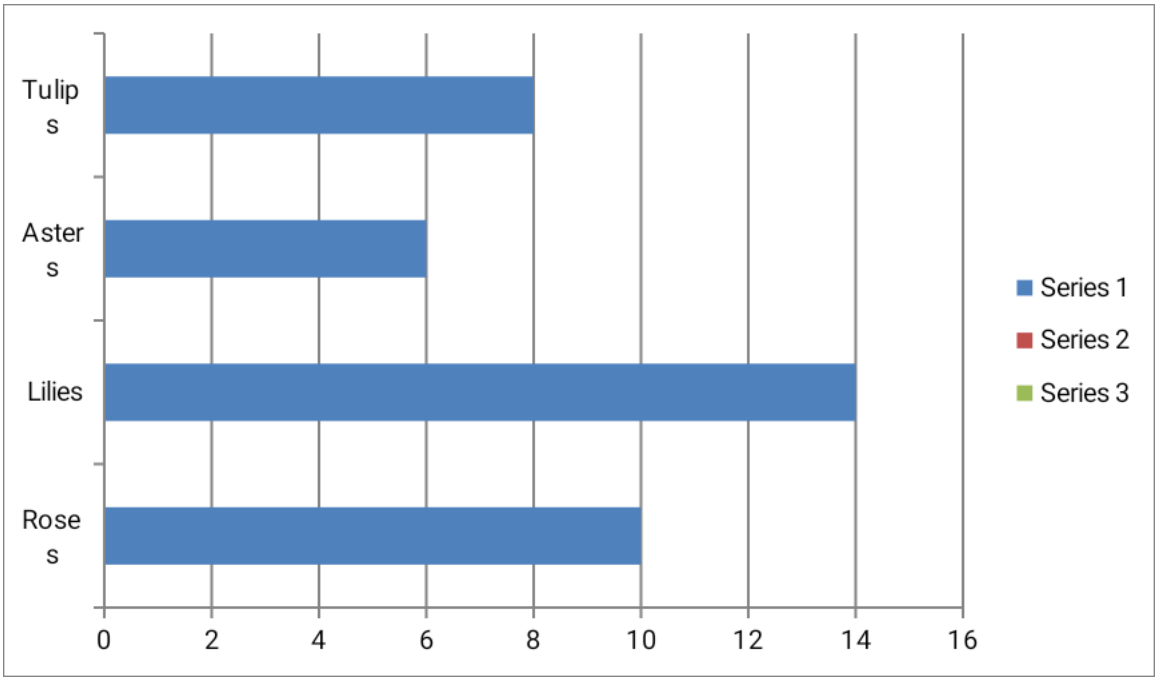
Number of hours	Tally marks	In Numbers
Pencils	𝍸 𝍸 𝍸 IIII	19
Eraser	𝍸 𝍸 IIII	14
Sharpeners	𝍸 𝍸 𝍸 𝍸 𝍸	25

3. Use the pictograph given below to build a bar graph and tally chart:

Flower in a bouquet.

Roses	
Lilies	
Asters	
Tulips	
	 Each symbol stands for 2 flowers

Roses (10)	Lilies (14)	Asters (9)	Tulips (8)
𝍸 𝍸 I	𝍸 𝍸 IIII	𝍸 IIII	𝍸 III



Miss Keneilhounuo