CBSE Sample Paper
Maths Set – A Answer
Class 8

1. 1/2.
2. three angles.
3. 8 cm.
4. 9.
5. 3609
6. Rs. 4500.
7. 8.
8. length, breadth and height.

Section - B

9.

Let the lengthof each edge of the cube be 'a'

Then its volume = $(a)^3$ cm^3

$a^3 = 343$, $\therefore$ a = 7 cm.

Total surface area of the cube = 6 a^2 sq. units

= $(6 \times 7 \times 7)$ cm^2 = 294 cm^2

$\therefore$ Total sufrace area of cube = 294 cm^2

Volume of a cuboid is l × b × h **Or,**

= 8 × 3 × 5 cm^3

=120 cm^3

Volume of cuboid = 120 cm^3

10. Since opposite sides of a parallelogram are equal, so in the parallelogram PQRS,
PQ=RS=4cm and QR=SP=4 cm
Since all sides of a parallelogram are equal, therefore, it is a rhombus.

11. Total outcomes of the event is 8.

(i) Probability of getting a green sector = 4/8 = 1/2
(ii) Probability of not getting a green sector, i.e. probability of getting a red (R) sector = 4/8 = ½

12. (i) Front view/Side View
(ii) Top view
(iii) Side view/Front View

13. Suppose the provision last for x days when the number of student in 120.

Number of students	100	120
Days	15	x

$$100 \times 15 = 120 \times x$$

$$x = \frac{100 \times 15}{120} = 12\frac{1}{2} \text{ days}$$

Therefore, the food will last for $12\frac{1}{2}$ days.

14. Sum of the digits of the number 51*x*3 is 5 + 1 + *x* + 3 = 9 + *x* is a multiple of 9.
∴ *x* = 0 or 9
9 + 0 = 9, a multiple of 9 and
9 + 9 = 18, a multiple of 9.

Section - C

15.

x	**0**	**1**	**2**	**3**	**4**	**5**
y = 3x	**0**	**3**	**6**	**9**	**12**	**15**

When x = 4, y = 12

When x = 5, y = 15

16.

$$\text{Volume of one box} = 0.8\ m^3$$

$$\text{Volume of godown} = 60 \times 40 \times 20\ m^3$$

$$\text{Number of boxes in store} = \frac{60 \times 40 \times 20}{0.8}$$

$$= 60,000.$$

Thus, the number of boxes in store is 60,000.

Or,

In rhombus diagnols bisect each other at right angles.

$\therefore OB^2 = AB^2 - OA^2$

$= 25 - 16$

$= 9$

$\therefore OB = 3$ cm

Hence, the length of the other diagonal is $BD = OB + OD = 6$cm.

$$\text{Area of rhombus} = \frac{1}{2} \times \text{product of its diagnals}$$

$$= \frac{1}{2} \times 8 \times 6$$

$$= 24\ cm^2$$

17. Total cards in a pack are 52.

Number of black kings is 2.

$\therefore$ Probability of getting a black king = 2/52= 1/26

18.

$\therefore$ (i) 2, 3, 5

$\therefore$ (ii) 6

$\therefore$ (iii) 4, 6

19.

$$\text{Rate of discount} = 10\%$$

$$\text{Selling price} = \text{Marked price} \times \left(\frac{100 - \text{discount}\%}{100}\right)$$

$$= 280 \times \left(\frac{100 - 10}{100}\right)$$

$$= 280 \times \frac{90}{100}$$

$$= \text{Rs.}252.$$

$$\text{Rate of profit} = 26\%$$

$$\text{C.P.} = \frac{100}{100 + \text{gain}\%} \times \text{S.P.}$$

$$\text{C.P.} = \frac{100}{100 + 26} \times 252$$

$$= \text{Rs.}200.$$

$\therefore$ Actual cost price of article is Rs. 200.

Or,

Let the cost of the article be x, then

$$\text{Gain} = \frac{1}{10} \text{ of } x$$

$$= \frac{x}{10}$$

$$\text{Rate of Gain} = \frac{\text{Gain}}{\text{C.P.}} \times 100$$

$$= \frac{\frac{x}{10}}{x} \times 100$$

$$= 10\%.$$

20. The price of the air conditioner = Rs 22000 including VAT.

If the price without VAT is Rs 100, then with VAT it is of Rs 110

Price of air conditioner including VAT is Rs 22000.

$\therefore$ Air conditioner price before VAT is

$= \frac{22000 \times 100}{110} = \text{Rs.}20,000$

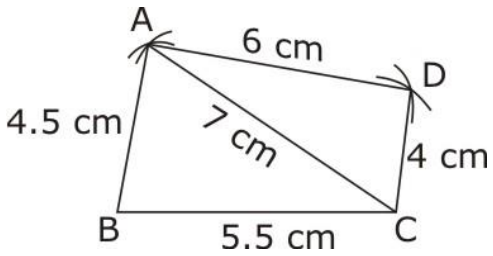
21. The given quadrilateral can be drawn as follows:

Step 1: Construct $\triangle$ABC with BC = 5.5 cm, AB = 4.5 cm and AC = 7 cm.

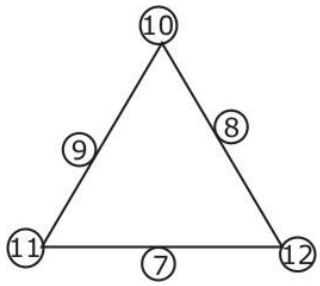
Step 2: Vertex D is 6 cm away from vertex A. Therefore, while taking A as centre, draw an arc of radius 6 cm.

Step 3: Taking C as centre, draw an arc of radius 4 cm, cutting the previous arc at point D. Join D to A and C.

ABCD is the required quadrilateral.



22.



23.

Let the map distance be x cm and the actual distance be y cm. Then,

1 : 40000000 = x : y

$$\frac{1}{4\times10^7}=\frac{x}{y}$$
$$\Rightarrow \frac{1}{4\times10^7}=\frac{4}{y}$$
$$y = 16\times10^7 \text{ cm}$$
or $y = 1600$ km.

Two cities which are 4 cm apart on the map are actually 1600 km away from each other.

24. Let the original number be 10a + b.

Sum of the digits a + b

a + b + 18 = 10a + b

$\therefore$ 9a = 18 or

a = 2

Also, the digit at the unit's place is double the digits in the ten's place, i.e. b = 2a

$\therefore$ b = 4

So, the two digit number is 24.

Or,

Let the original number be 10a + b.

It is given that b = 3a

Also, a + b = 12

$\Rightarrow$ a + 3a = 12

$\Rightarrow$ 4a = 12

$\Rightarrow$ a = 3, b = 3a = 3 x 3 = 9

$\therefore$ a = 3, b = 9

Hence the number is 39.

Section - C

25. Reena deposited money in bank = Rs. 12000

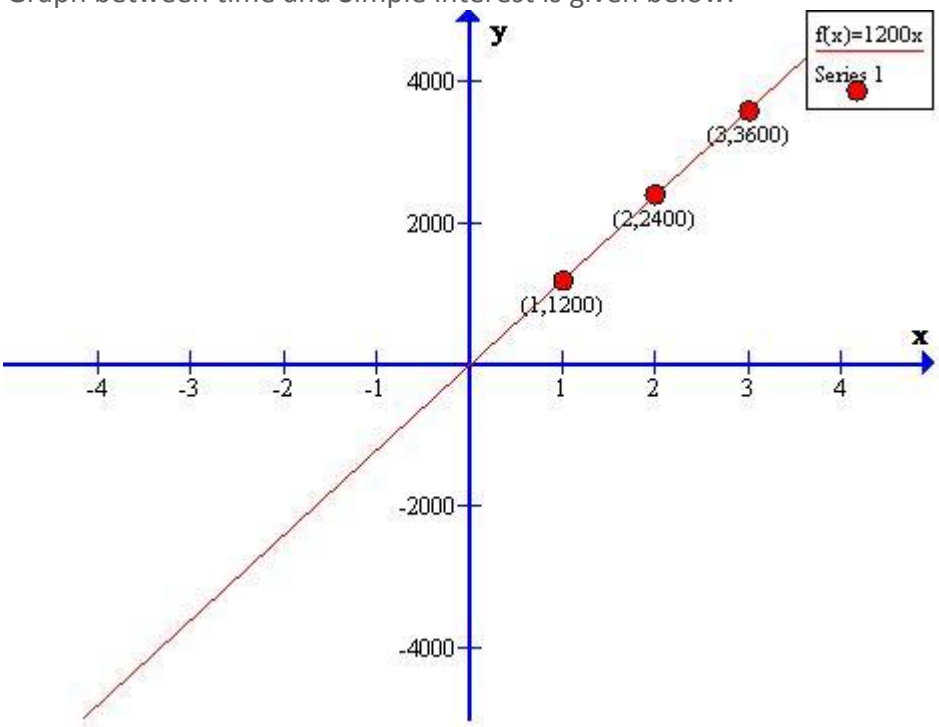
Rate of intrest = 10%

Interest after one year = (12000 × 10 × 1)/ 100

= 1200.

Time	1	2	3	4
Simple Interest	1200	2400	3600	4800

Graph between time and Simple interest is given below:



From graph we see that simple interest after 4 years is Rs. 4800.

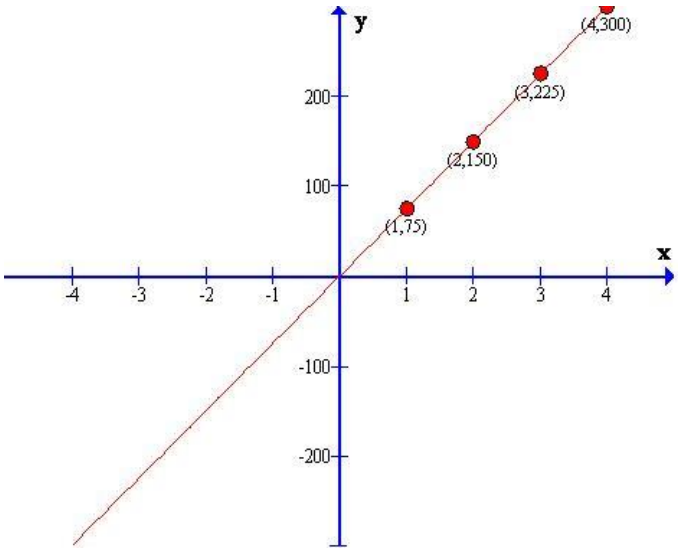
Or,

Speed of train = 75 km/hr

Table for distance – time graph is given below:

Time (in hours)	1	2	3	4
Distance travelled(in Km)	75	150	225	300

The distance – time graph is given below:



(i) From graph,

Train will travel in 2 hours and 30 minutes = 187.5 km

(ii) Time required to cover a distance of 300 km = 4 hrs.

26. Number of arrived soldiers in camp = 400

Total number of soldiers in camp= 800 + 400

=1200

800 soldiers finished food in days = 60 days

Let 1200 soldiers will finish food in days = x days

Then, 800×60 = 1200 × x

x = (48000)/(1200) = 40 days

Thus, the food will last for 40 days for 1200 soldiers.

27.

Let the needed people to finish the work be x.

No. of People		Hours		Days
40	↓	8	↑	21 ↑
x		10		14

So,

$$\frac{x}{40} = \frac{8}{10} \times \frac{21}{14}$$

$$x = \frac{8}{10} \times \frac{21}{14} \times 40$$

$$= 48$$

Thus, required people for work $= 48 - 40$

$= 8$

28.

$$\text{Area of floor} = \frac{\text{Total cost of matting}}{\text{Rate of matting}}$$

$$\text{Area of floor} = \frac{91.80}{0.85}$$

$$\text{length} \times \text{breadth} = 108\,\text{m}^2$$

$$12 \times \text{breadth} = 108\,\text{m}^2$$

$$\text{breadth} = \frac{108\,\text{m}^2}{12\,\text{m}}$$

$$= 9\,\text{m}$$

$$\text{Area of walls} = \frac{\text{Total cost of papering}}{\text{Rate of papering}}$$

$$2(l+b)h = \frac{340.20}{1.35}$$

$$2(12+9)h = 252\,\text{m}^2$$

$$\text{height} = \frac{252\,\text{m}^2}{42\,\text{m}}$$

$$= 6\,\text{m}$$

Thus, height of room is 6 m.

Or,

Let height of water in cylinderical container be x cm.

Radius of cylinderical container = 28 cm

Volume of water in cylinderical container $(V_1) = \pi r^2 h$

$$= \pi \times (28)^2 \times x$$

Volume of rectangular solid $= 32 \times 22 \times 14$

Let rise in water level on submerging solid = h cm

So,

Volume of water with solid $(V_2) = \pi (28)^2 (x + h)$

Then,

$$V_2 - V_1 = 32 \times 22 \times 14$$

$$\pi (28)^2 (x + h) - \pi \times (28)^2 \times x = 32 \times 22 \times 14$$

$$\frac{22}{7} (28)^2 \{x + h - x\} = 32 \times 22 \times 14$$

$$h = \frac{32 \times 22 \times 14 \times 7}{22 \times 28 \times 28}$$

$$= \frac{32}{8}$$

$$= 4 \text{ cm}$$

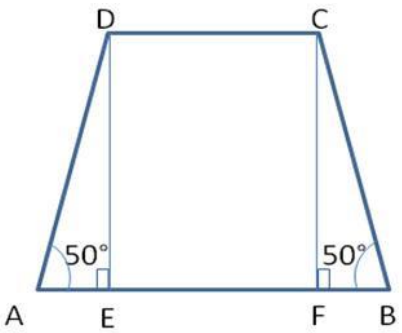
29.

Given: ABCD is a trapezium in which $\angle$A=50°, $\angle$C=50° and AB $\parallel$ CD.

To Prove: (i) BC = DA

(ii) $\angle$C = $\angle$D and find the measurement of $\angle$C.

Construction: Draw DE and CF perpendicular on AB.



(i) In ΔAED and ΔBFC

$\angle A = \angle B$ [each 50°]

$\angle E = \angle F$ [each 90°]

$DE = CF$ [perpendiculars between parallel lines are equal]

$\therefore \Delta AED \cong \Delta BFC$ (By AAS)

So, $DA = BC$ (By CPCT)

(ii) $\angle ADE = \angle CFB$ (By CPCT)

Adding 90° both sides, we get

$\angle ADE + 90^\circ = \angle BCF + 90^\circ$

$\angle D = \angle C$

Since $AB \parallel CD$,

So, $\angle B + \angle C = 180^\circ$

$50^\circ + \angle C = 180^\circ$

$\angle C = 180^\circ - 50^\circ$

$= 130^\circ$

30.

(i) Sum of digits = 2 + 2 + 3 + x + 4

= 11 + x

(11 + x) should be divisible by 3.

This is possible if 11 + x = 3, 6, 9, 12, …

Since x is a digit so,

11 + x = 12

x = 1

(ii) Sum of digits = 4 + 5 + 4 + 3 +x

= 16 + x

(16 + x) should be divisible by 3.

This is possible if 16 + x = 3, 6, 9, 12, 15, 18 …

Since x is a digit so,

16 + x = 18

x = 2

(iii) Sum of digits = 2 + 5 + 6 + 2 + x + 1

= 16 + x

(16 + x) should be divisible by 3.

This is possible if 11 + x = 3, 6, 9, 12, 15, 18 …
But since x is a digit so,

16 + x = 18
x = 2

(iv) Sum of digits = 3 + 4 + 9 + 5 + x
= 21 + x

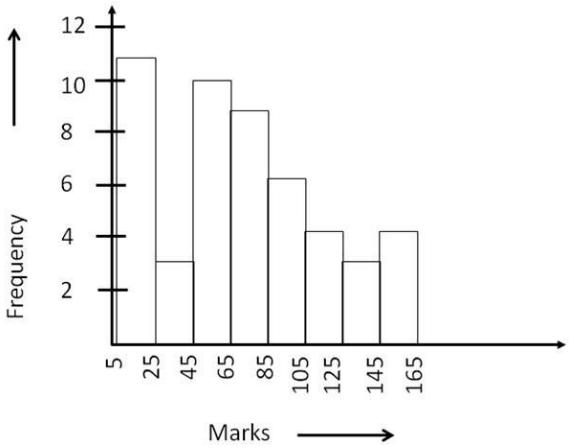
(21 + x) should be divisible by 3.
This is possible if 21 + x = 3, 6, 9, 12,…, 21,24,…
But since x is a digit so,

21 + x = 21
x = 0

31.

Class – Interval	Tally Marks	Frequency
5-25	𝍸	11
25-45	|||	3
45-65	𝍸	10
65-85	𝍸|||	9
85-105	𝍸|	6
105-125	||||	4
125-145	|||	3
145-165	||||	4

Histogram of following data is given below:



32.

Sum of digits = 7 + 2 + 1 + 6 + 3 + 4 + 5 + 8 = 36
36 is divisible by 9, so 72163458 is divisible by 9.
(ii) Sum of digits = 2 + 3 + 4 + 5 + 7 + 8 + 9 + 1 = 39
39 is not divisible by 9, so 23457891 is not divisible by 9.
(iii) Sum of digits =1 + 2 + 3 + 0 + 4 + 9 + 0 + 5 = 24
24 is not divisible by 9, so 12304905 is not divisible by 9.
(iv) Sum of digits = 3 + 6 + 4 + 5 + 8 + 0 + 9 + 1 = 36
36 is divisible by 9, so 36458091 is divisible by 9.

33.

Let C.P. of chair = Rs.x

Rate of loss = 15%

So,

$$\text{S.P. of chair} = x\left(\frac{100-15}{100}\right)$$

$$= x\left(\frac{85}{100}\right)$$

$$= \frac{17x}{20}$$

$$\text{New S.P. of chair} = \frac{17x}{20} + 800$$

Rate of profit = 5%

So,

$$\text{New S.P. of chair} = x\left(\frac{100+5}{100}\right)$$

$$= \frac{105}{100}x$$

$$= \frac{21x}{20}$$

Then,

$$\frac{17x}{20} + 800 = \frac{21x}{20}$$

$$800 = \frac{21x}{20} - \frac{17x}{20}$$

$$800 = \frac{4x}{20}$$

$$800 \times \frac{20}{4} = x$$

$$4000 = x$$

Thus, the cost price of chair is Rs. 4000.

34.

C.P. of watch for Rakesh = Rs. 800

S.P. of watch for Rakesh = Rs. 1000

Profit on watch to Rakesh = $1000 - 800$

$= \text{Rs.}200$

$$\text{Rate of Profit} = \frac{200}{1000} \times 100$$

$= 20\%$

C.P. of car for Mukesh = Rs. 4,00,000

S.P. of car for Mukesh = Rs. 4,20,000

Profit on car for Mukesh = Rs. $(4,20,000 - 4,00,000)$

Profit on car for Mukesh = Rs.20,000

$$\text{Rate of Profit} = \frac{20,000}{4,00,000} \times 100$$

$= 5\%$

So, Rakesh made a better sale.