# CBSE Sample Paper
# Maths Set – B Answer
# Class 8

**Section - A**

**1.** 1/2.
**2.** third quadrant.
**3.** 28.
**4.** 8 cm.
**5.** Rs 3600.
**6.** 10 elements
**7.** 34.
**8.** (b) 3

**Section - B**

**9.**

Let thedepth of the cylindrical tank be 'h'

Radius = 8m.

Capacity of tank = $\pi r^2 h$

$\therefore 5632 = \left(\frac{22}{7} \times 8 \times 8 \times h\right) m^3$

$h = \frac{5632 \times 7 \times 1 \times 1}{22 \times 8 \times 8} = 28$

Hence,depth of the cylinder is 28m.

**Or,**

Area of rhombus = (1/2)$d_1 \times d_2$ (where $d_1$, $d_2$ are lengths of diagonals.)

= (1/2) $\times$ 20 $\times$ 16 $cm^2$
= 160 $cm^2$.

**10.** P( blue marble) = Number of blue marbles/ Total number of marbles
= 6/16 = 3/8

**11.** A number whose product is a one digit number = 1 x 9 = 9
Sum is a two digit number = 9 + 1 = 10
So, the two numbers are 1 and 9.

**12.** 1) Prism is a polyhedron in which the base and top are congruent polygons; whereas a pyramid is a polyhedron in which the base is a polygon.

2) In a prism the lateral faces are parallelograms; whereas in a pyramid, the lateral surfaces are triangles with a common vertex.

**13.** Let x number of men dig the trench in 6 days.

| Number of men | 12 | x |
|---|---|---|
| Days | 8 | 6 |

$$12 \times 8 = 6 \times x$$

$$x = \frac{12 \times 8}{6} = 16 \text{ men.}$$

16 men dig the same trench in 6 days.

**14.**

Let two adjacent sides of parallelogram be 4x and 5x.
Then,
Perimeter of parallelogram = $2 \times$ sum of adjecent sides

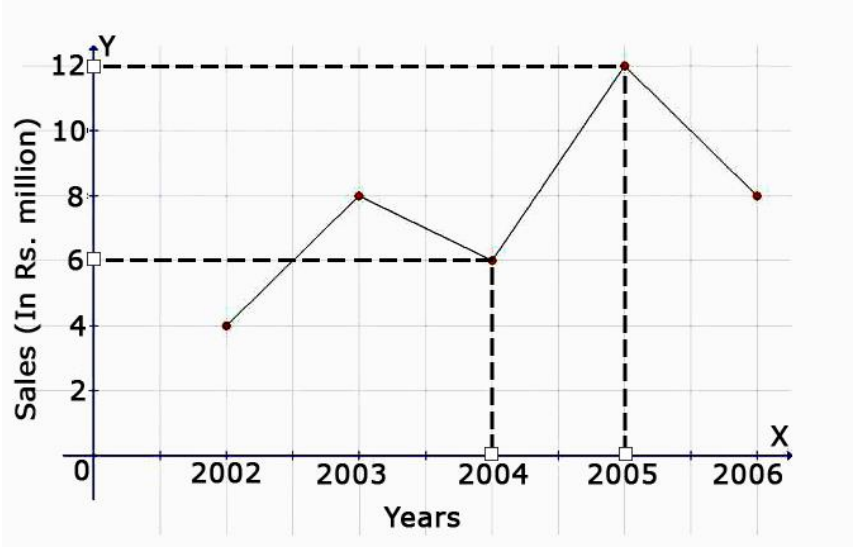
$$72\text{cm} = 2(4x + 5x)$$
$$72\text{cm} = 18x$$
$$x = \frac{72}{18}$$
$$= 4$$

So, the sides of parallelogram are

$$4x = 4(4)$$
$$= 16\text{cm}$$
$$5x = 5(4)$$
$$= 20\text{cm}$$

**Section - C**

**15.**




In year 2004, sales is 6 million

In year 2005, sales is 12 million

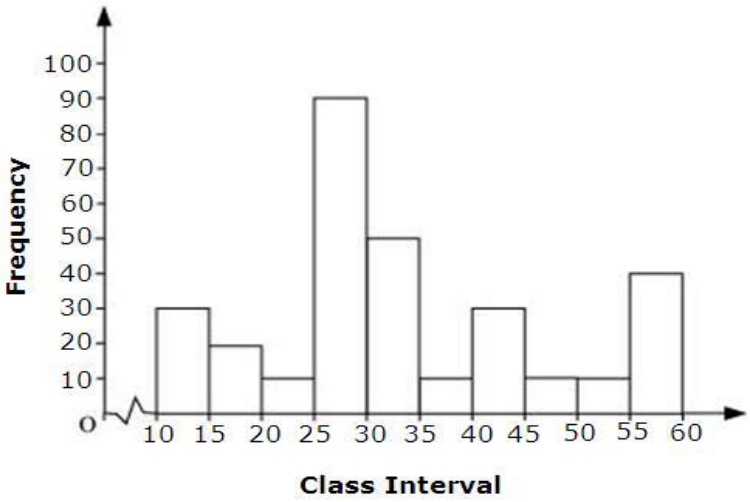
Difference is 6 million. It's the greatest difference between the sales as compared to its previous year.

**16.** There are 2 + 3 = 5 marbles in the bag.

Number of outcomes of drawing a blue marble is 2.

∴ Probability of drawing a blue marble is 2/5.

**17.**




**18. .**

Rate of discount $= 10\%$

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

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

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

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

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 Price of bicycle be Rs x

S.P. of the bicycle with 8% gain = $\frac{(100+\text{gain}\%)\times \text{C.P}}{100}$

$=\frac{100+8}{100}\times x$

$=\frac{108x}{100}$

$=\frac{27}{25}x$

S.P. of the bicycle with 14% gain = $\frac{100+14}{100}\times x$

$=\frac{114}{100}=\frac{57x}{50}$

Now, $\frac{57x}{50}-\frac{27x}{25}=75$

$\Rightarrow \frac{57x-54x}{50}=75$

$\Rightarrow 3x=75\times 50$

$x=\frac{75\times 50}{3}=1250$

Hence C.P. of bicycle is Rs. 1250

**19.**

Simple Interest paid by Shruti for Rs 12,000 at 10% per annum for 3 years.

S.I = $12000\times\frac{10\times 3}{100}=3600$

Shalini paid Compound interest for 3 years on Rs. 12000 at the rate of 8%.

Amount = $12000\times\left(1+\frac{8}{100}\right)^3$

= $12000\times\frac{27}{25}\times\frac{27}{25}\times\frac{27}{25}=\frac{236196000}{15625}$

= Rs.15116.54

C.I = 15116.54 − 12000 = 3116.54

Simple Interest is more than compound interest.

Difference = Rs. 3600-3116.54 = 483.46

So, Shruti pays more interest than Shalini of Rs 483.46.

**20.** The quadrilateral PQRS can be drawn as follows:

**Step 1:** Draw a line segment PR = 7 cm

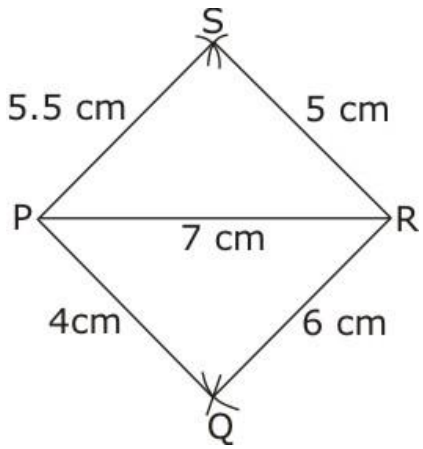
**Step 2:** From P with radius 5.5 cm draw an arc above PR.

**Step 3:** From R with radius 5 cm cut the arc drawn in step 2.

**Step 4:** From P with radius 4 cm draw an arc below PR.

**Step 5:** From R with radius 6 cm cut the arc drawn in step 4.

PQRS is the required quadrilateral.




**21.** Radius of cylinderical pillar = 21 cm

= 0.21 m

Height of cylinder = 5 m

Curved Surface area of pillar = $2\pi rh$

$= 2(22/7) \times 0.21 \times 5$

$= 6.6\ m^2$

Curved Surface area of 4 pillars = $4 \times 6.6$

$= 26.4\ m^2$

**Or,**

Height of cylinder (h) = 7 cm

Radius of cylinder (r) = 20 cm

Volume of cylinder(V) = $\pi r^2 h$

$= (22/7) \times 20 \times 20 \times 7$

$= 8800\ cm^2$

**22.**

Let the no. of boxes be x.

| No. of boxes | 25 | x |
|---|---|---|
| No. of bottles | 12 | 20 |

$25 \times 12 = 20 \times x$

$x = \frac{25 \times 12}{20} = 15$ boxes

15 boxes will be filled, if 20 bottles are packed.

**23.** 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.

**24.** 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.** Speed of car = 30 km/h

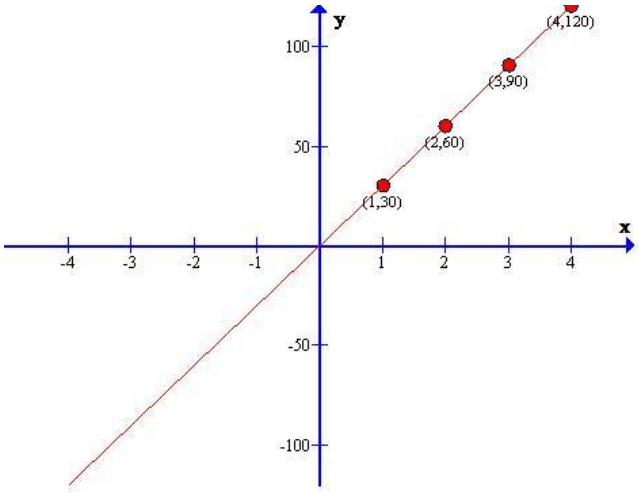
Distance covered in 1 hour = 1×30

= 30 km

Table for distance-time is given below:

| Time | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Distance | 30 | 60 | 90 | 120 |

Graph for distance- time is given below:




From graph, Parul takes 4 hours to cover 120 km distance.

**Or,**

Mayank deposited money in bank = Rs. 1400

Rate of interest of bank = 10%

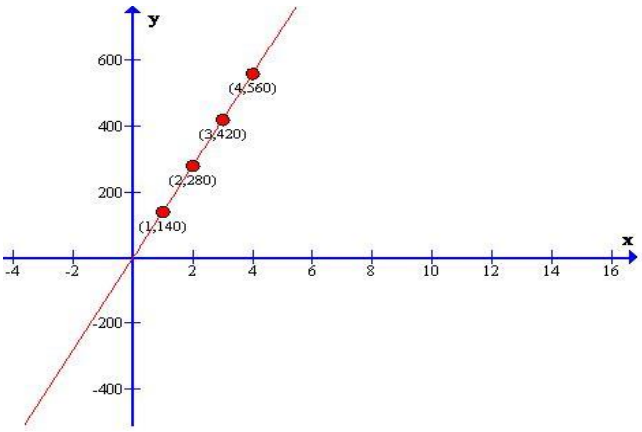
Mayank got interest for 1 year = (10/100) × 1400

= Rs. 140

Table for relationship between time and the interest earned by Mayank.

| Time(in years) | 1 | 2 | 3 |
|---|---|---|---|
| Interest(in Rs.) | 140 | 280 | 420 |

The graph for relationship between time and the interest is given below:




**26.**

Let two sides of parallelogram be $x$ and $(x+20)$.

Perimeter of parallelogram $= 2(x+x+20)$

$$140 = 2(2x+20)$$

$$2x+20 = \frac{140}{2}$$

$$2x = 70-20$$

$$x = \frac{50}{2}$$

$$= 25$$

$$x+20 = 25+20$$

$$= 45\,\text{cm}$$

Thus, adjacent sides of the parallelogram are 45 cm and 25 cm.

**27.**

(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 $16 + x = 3, 6, 9, 12, 15, 18 \ldots$

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 $11 + x = 3, 6, 9, 12, 15, 18 \ldots$

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 $21 + x = 3, 6, 9, 12, \ldots, 21, 24, \ldots$

But since x is a digit so,

$21 + x = 21$

$x = 0$

**28.** (a) Outcomes of a composite number are (4,6).

(b) Outcomes of a non-composite number are (1,2,3,5).

(c) Outcomes of a number greater than 4 are (5,6).

(d) Outcomes of a number not greater than 3 are (1,2).

**29.**

Selling price of washing machine = Rs.5760

Two successive discounts are 15% and 10%.

Let marked price of washing machine = Rs.x

S.P. of washing machine after first discount $= x\left(\frac{100-15}{100}\right)$

$= \frac{85x}{100}$

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

S.P. of washing machine after second discount $= \frac{17x}{20}\left(\frac{100-10}{100}\right)$

$= \frac{17x}{20} \times \frac{90}{100}$

$= \frac{153x}{200}$

Then, according to condition

$$\frac{153x}{200} = \text{Rs.}5760$$

$$x = \text{Rs.}5760 \times \frac{200}{153}$$

$$x = \text{Rs.}7529.40(\text{approx})$$

Thus, the marked price of washing machine is Rs.7529.40.

**30.**

Let cost price of television $= \text{Rs.}x$

Marked price of television $= x\left(\frac{100+25}{100}\right)$

$= \frac{125}{100}x$

$= \frac{5}{4}x$

But, marked price $= 12{,}000$

Then, $\frac{5}{4}x = 12{,}000$

$x = 12{,}000 \times \frac{4}{5}$

$= 2{,}400 \times 4$

$= \text{Rs.}9{,}600$

Thus, the cost price of television = Rs.9600

Rate of discount on television $= 10\%$

Selling price of television $= 12{,}000\left(\frac{100-10}{100}\right)$

$= 12{,}000 \times \frac{90}{100}$

$= \text{Rs.}10{,}800$

Profit on television $= 10{,}800 - 9{,}600$

$= \text{Rs.}1{,}200$

Rate of Profit $= \frac{1200}{9600} \times 100$

Rate of Profit $= 12.5\%$

**31.**

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

= 9 + x

(9 + x) should be divisible by 9.

This is possible if 9 + x = 9, 18, …

Since x is a digits so,

9 + x = 9

x = 0

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

= 12 + x

(12 + x) should be divisible by 9

This is possible if 12 + x = 9, 18, …

Since x is a digit so,

9 + x = 18

x = 9

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

= 9 + x

(9+x) should be divisible by 9.

This is possible if 9 + x = 9, 18, …

Since x is a digit so,

9 + x = 9

x = 0

(iv) Sum of digits = 2 + 3 + 4 + 9 + 5+ x

= 23 + x

(23 + x) should be divisible by 9.

This is possible if 23 + x = 9, 18, 27, …

But since x is a digit so,

23 + x = 27

x = 4

**32.** Let the average speed of faster train be v km/hr.

First train finished distance in 10 hrs at a speed of 56 km/hr. Then,

$10 \times 56 = 8 \times v$

$v = (10 \times 56)/8$

$= 70$ km/hr

Thus, the speed of the faster train is 70 km/hr.

**33.**

| No. men | Days | Acres |
|---|---|---|
| 10 ↓ | 6 ↑ | 5 ↑ |
| 8 | x | 4 |

Let the number of days be x.

Then,

$$\frac{6}{x} = \frac{8}{10} \times \frac{5}{4}$$

$$\frac{6}{x} = 1$$

$$x = 6$$

Thus, they will take 6 days to complete the mow of 4 acres of land.

**34.**

Length of pool $= 20\,m$

Breadth of pool $= 15\,m$

Depth of pool $= 4\,m$

Surface area of pool $= 2(l + b)h$

$= 2(20 + 15) \times 4$

$= 2 \times 35 \times 4$

$= 280\,m^2$

Rate of cementing $=$ Rs.$12/m^2$

Cost of cementing $= 280 \times 12$

$=$ Rs.$3360$

**Or,**

Length of sheet = 44 m

Breadth of sheet = 20 m

When it is rolled along length, a cylinder is formed.

So, height of cylinder = 20 m

Circumference of base = 44 m

$$2\pi r = 44$$

$$2 \times \frac{22}{7} \times r = 44$$

$$r = \frac{44 \times 7}{2 \times 22}$$

$$r = 7m$$

So,

Volume of cylinder $= \pi r^2 h$

$$= \frac{22}{7} \times (7)^2 \times 20$$

$$= 22 \times 7 \times 20$$

$$= 3080 m^3$$