

General Science and Ability Section-II

Q#6(a)

Given: Enrollments in Jan, 2022 = 850
Enrollments in Jan, 2023 = 1120

To find: increase percentage = ?

Sol: Difference between enrollments = $1120 - 850$

= 270 pupils

$$\text{Increase percentage} = \frac{270}{850} \times 100$$

$$= \frac{540}{85}$$

$$= \frac{540}{17}$$

$$\boxed{\text{Increase percentage} = 31.1\%}$$

Q#6(b) let the age of son = x
and age of father (according
to given condition) = $5x$

Now, according to given situation

$$x^2 + (5x)^2 = 114$$

$$x^2 + 25x^2 = 114$$

$$26x^2 = 114$$

$$x^2 = \frac{114}{26}$$

$$\sqrt{x^2} = \sqrt{\frac{114}{26}}$$

$$x = \sqrt{\frac{57}{13}}$$

$$x = \sqrt{4.38}$$

$$x = 2.09$$

So, the age of son two years
ago was 2.09.

Hence, the present age of
son = $2.09 + 2$
= 4.09 years.

Present age of son = 4.09 years

Q#6(c) let no. of hens = x
& no. of cows = y
Then, according to given situation

$$x + y = 48 \quad \text{--- (1)}$$

$$2x + 4y = 140 \quad \text{--- (2)}$$

Now, (1) $\Rightarrow x = 48 - y$

using this in eq (2)

$$2(48 - y) + 4y = 140$$

$$96 - 2y + 4y = 140$$

$$2y = 140 - 96$$

$$2y = 44$$

$$y = 22$$

To find no. of hens use
 $y = 22$ in eq (1)

$$x + 22 = 48$$

$$x = 48 - 22$$

$$x = 26$$

26 hens are present.

Q#6(d) Given: Speed in
first half = 40km/h
Speed in 2nd half = 60km/h

To find:

Average speed of
the journey = ?

SOL: By using formula for the
average

$$\text{Average} = \frac{\text{Sum of values}}{\text{no. of values}}$$

$$= \frac{40\text{km/h} + 60\text{km/h}}{2}$$

$$= \frac{100\text{km/h}}{2} = 50\text{km/h}$$

So, the average speed of the
journey is 50km/h .

Q#7(a). A number is divided by 6 and then 50 is added. If the total is 60, what is that number?

Sol

Given: let the number be x
then, according to given statement

$$\frac{x}{6} + 50 = 60$$

$$\frac{x + 300}{6} = 60$$

$$x + 300 = 60 \times 6$$

$$x + 300 = 360$$

$$x = 360 - 300$$

$$x = 60$$

So, the required number is 60.

Q#7(b). Find the odd one out:

8, 16, 24, 34, 40, 48.

SOL: By looking at the pattern which is the addition of 8 to previous number, 34 is the odd one because when

$$24 + 8 = 32$$

not 34. So 34 is the odd one.

Q#7(c). A tower is 15m tall. If I'm standing 20m from the base of the tower. What is my aerial distance from the top of the tower?

SOL: From the figure, c is unknown

Now, by using pythagoras theorem

$$c^2 = b^2 + a^2$$

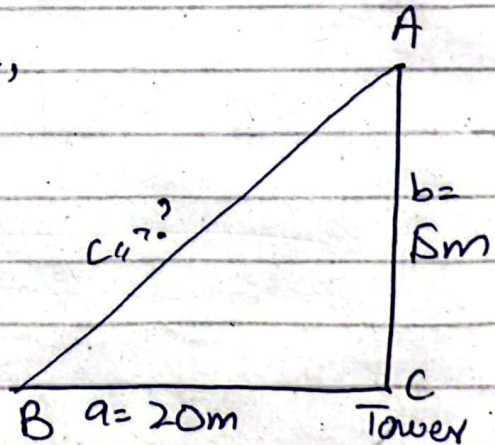
$$c^2 = (15)^2 + (20)^2$$

$$c^2 = 225 + 400$$

$$c^2 = 625$$

$$\sqrt{c^2} = \sqrt{625}$$

$$c = 25m$$



Q#7(d) Given: Tariff for odd date = 1000
Tariff for even date = 2000
Starting date of stay = 5th of the month.

Amount paid = 30000

To find:

Total number of days of stay = ?

Sol: According to given condition, let x be for odd days & y be the even days.

$$\text{So, } 1000x + 2000y = 30000$$

and Total days = $x + y$.

~~To solve this question, hit & trial method is used as:~~

$$\text{let } x = 9 \quad \& \quad y =$$

By following the pattern of alternate days, it is observed that he stayed there for 20 days starting from 5th of the month till ~~5th~~ 24th being his last day of stay.