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Work on theory portion too

Q # 6

(a) Votes recieved by candidates = 15000, 10,000 & 8000

% of total votes of wining candidate = ?

As total votes = 15,000 + 10,000 + 8000

= 33,000

and votes of wining candidate = 15000

So, by applying percentage formula = $\frac{\text{Votes secured}}{\text{Total votes}} \times 100$

$= \frac{15000}{33000} \times 100$

$= 45.4\%$

Ans. So % of total votes of wining candidate are 45.4 %.

(b) Ratio of angles of $\Delta = 3 : 4 : 5$

each angle = ?

As total angle of $\Delta = 180°$

lets consider each part of ratio, a multiple of x, So, $3x : 4x : 5x$

and total angle will be equal to addition of all three parts, and common multiple is still missing.

$$3x + 4x + 5x = 180$$

$$12x = 180$$

$$x = \frac{180}{12} = 15$$

Answer: So, each angle would be

$3x = 3(15) = 45°$

$4x = 4(15) = 60°$

$5x = 5(15) = 75°$

(c)

- Each group consist of 4 boys and 6 girls
- no of girls = 102
- no of boys = ?

So, if there are 102 girls and each group require 6 girls then dividing 102 by 6 = $\frac{102}{6}$ = 17. Hence, girls will form 17 groups.

Boys are often required for 17 groups, and each group requires

4 boys, So boys are = 4 x 17
= 68.

Ans. Hence, no of boys would be 68.

(d) Present ages of A & B = 6 : 7

After 5 years $\frac{A+5}{B+5} = \frac{7}{8}$

Lets consider each part in ratio, a multiple of x (A common multiple which completes the ratio).

So, we come up with.

$\frac{A}{B} = \frac{6x}{7x}$ → (i) and $\frac{A+5}{B+5} = \frac{7x}{8x}$ → (ii)

Add 5 with all parts of ratio (i)

$\frac{A+5}{B+5} = \frac{6x+5}{7x+5}$ → (iii)

Now, equating (ii) & (iii) we get,

$\frac{6x+5}{7x+5} = \frac{7x}{8x}$

$8x(6x+5) = 7x(7x+5)$

$8(6x+5) = 7(7x+5)$

$48x + 40 = 49x + 35$

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$49x - 48x = 40 - 35$

$x = 5$

So, putting it in (i) we get,

$\frac{A}{B} = \frac{6 \times 5}{7 \times 5} = \frac{30}{35}$

Answer Hence, their present ages are 30 and 35

Q#8

(a)

Sum of three consective odel numbers = 273

the number = ?

let the numbers be $2n-1$, $2n+1$ & $2n+3$

So, $2n-1+2n+1+2n+3 = 273$

$6n + 3 = 273$

$(2n+1) = \frac{273}{3}$

$2n+1 = 91$

$n = \frac{91-1}{2}$

$n = 45$

So, the numbers are,

(c)

Correcting the jumbled spelling

- THRSI → THIRST
- GNOREA → GRANDE
- SCHAMOT →
- ONLNDO → LONDON
- HIODALY → HOLIDAY

(d)

let Sara = S

Ali = A

Mother = M

Then, as given

- $6S = M \rightarrow (I)$
- $2S = A \rightarrow (II)$

In three years their ages will be

$S+3$, $A+3$, $M+3$

& sum of their ages = $S+3+A+3+M+3 = 72$

replacing A, & M with S in given equation

$S+3+2S+3+6S+3 = 72$

$9S + 9 = 72$

$S + 1 = \frac{72}{9}$

$S = 8 - 1$

$\boxed{S = 7}$

Putting value of S in (I) & (II)

So, $6(7) = M$

$\boxed{42 = M}$

$2(7) = A$

$\boxed{14 = A}$

Ans. So, their ages are

Sara = 7

Ali = 14

Mother = 42