Good

Section II

Question 6:

(a)

Candidate A = 15000

Candidate B = 10000

candidate C = 8000

Percentage = ?

Solution:

$$\%\text{age of winning} = \frac{\text{Candidate A}}{\text{Total votes}} \times 100$$

$$= \frac{15000}{15000+10000+8000} \times 100$$

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

$$= \frac{15}{33} \times 100$$

$$= 0.45 \times 100$$

$$= 45\%$$

So the winner got 45% of the total votes.

(B)

Ratio of angles = 3:4:5

each angle =

let θ be any angle such that

$3\theta : 4\theta : 5\theta$ is the ration

Now we know that sum of all angles of a triangle = 180 so

$3\theta + 4\theta + 5\theta = 180^\circ$

$12\theta = 180^\circ$

$\theta = \frac{180}{12}$

$\theta = 15$

| 180

so

Angle 1 : $3\theta = 3(15) = 45^\circ$

Angle 2 : $4\theta = 4(15) = 60^\circ$

Angle 3 : $5\theta = 5(15) = 75^\circ$

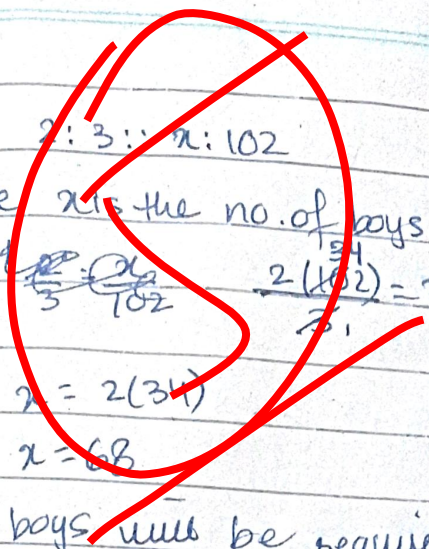
These are the three required angles.

(C)

Each group = 4 boys and 6 girls

Girls availible = 102.

The ratio of boys to girls is 2:3



So $2 : 3 :: x : 102$

where x is the no. of boys required

$\frac{2}{3} = \frac{x}{102}$ $\quad \frac{2(102)}{3} = x$

$x = 2(34)$

$x = 68$

So 68 boys will be required.

(D)

Presentages = 6:7

after 5 year = 7:8

find present.

Now

$A : B = 6 : 7$, —(i)

after 5 years

$(A+5) : (B+5) = 7 : 8$. —(ii)

So

$\frac{A}{B} = \frac{6}{7}$

$A = \frac{6}{7}(B)$ —(iii)

putin (ii)

$A+5 = \frac{7}{8}(B+5)$

$$A+5 = \frac{7}{8}(B+5)$$

$$\frac{6}{7}B + 5 = \frac{7}{8}B + \frac{35}{8}$$

$$\frac{6B}{7} - \frac{7B}{8} + 5 = \frac{35}{8}$$

$$\frac{48B - 49B}{56} = \frac{35}{8} - 5$$

$$\frac{-B}{56} = \frac{35-40}{8}$$

$$\frac{-B}{7} = \frac{-5}{1}$$

$$\boxed{B = 35}$$

Now put in (iii)

$$A = \frac{6(35)}{7}$$

$$\boxed{A = 30}$$

So the age of A is 30 and the age of B is 35

2 | 7,8
2 | 7,4
2 | 1,2
7 | 1

28
28
56

QUESTION 8

(a)

Sum of three consecutive odd number is 273

so let x is an odd number

so $x+2$ is the next consecutive odd number

and $x+4$ is the 3rd consecutive odd numbers

so by condition

$$(x)+(x+2)+(x+4)=273$$

$$3x+6=273$$

$$3x=273-6$$

$$x=\frac{267}{3}$$

$$x=89$$

so the three consecutive numbers are 89, 91 and 93

(b)

(i) 4, 16, 36, 64, ___, 144

$2^2=4$

$4^2=16$

$6^2=36$

$8^2=64$

$10^2=100$

$12^2=144$

So the missing number is 100

(ii) 30, 29, 27, 24, 20, 15

-1 -2 -3 -4 -5

So $27-3=24$

and $24-4=20$

so our condition is correct hence

the missing number is 24

(iii) 1, 7, 15, 25, 37, 51

+6 +8 +10 +12 +14

So $25+12=37$

and $37+14=51$

Hence 37 is the missing number.

(iv) 0, 2, 6, 12, 20, 30, ___

+2 +4 +6 +8 +10 +12

So the missing number is 42.

(v) 48, 24, 72, 35, 108, ___

+24 +36

-24

Question wrong.

(C)

(i) THRIS
SHIRT

(ii) GNDREA
GARDEN

(iii) SCHAMOT
STOMACH.

(iv) ONLNDO
LONDON

(v) HIODALY
HOLIDAY

(D)

Sara's mother = 6x sara

Ali = 2x sara

in three years Sara+Ali+mom = 72

Ages Now = ?

Let sara = x

mother = y

Ali = z

So (i) (ii)

$y = 6x$ and $z = 2x$

in three years i.e

$(x+3)+(y+3)+(z+3) = 72$ ——(iii)

put (i) and (ii) in (iii)

$(x+3)+(6x+3)+(2x+3)=72$

$x+3+6x+3+2x+3=72$

$9+9x=72$

$9x=72-9$

$9x=63$

$x=\frac{63}{9}$

$\boxed{x=7}$

so from (i) $y=6x \Rightarrow y=6(7)$

$\boxed{y=42}$

& from (ii) $z=2x \Rightarrow z=2(7)$

$\boxed{z=14}$

So the age of sara is 7

age of mother is 42

and age of Ali is 14.