

Section II

a- Q6

Bushra Ameer

Batch 47

Identify the series

4, 18, 100, , 284

$$2^3 - 2^2 = 4$$

$$3^3 - 3^2 = 18$$

$$4^3 - 4^2 = 48 \text{ (as not in series)}$$

$$5^3 - 5^2 = 100$$

$$6^3 - 6^2 = 180$$

$$7^3 - 7^2 = 284$$

So,

$$6^3 - 6^2 = \underline{\underline{180}}$$

= **180 ans**

Rough work

$$4 \times 1 = 4$$

$$4 \times 2 = 8$$

8

4, 18, 100, , 284

4, 18, 100, , 284

$$4 \times 2 = 8$$

$$5 \times 2 = 10$$

$$8 \times 2 = 16$$

$$4 \times 23 = 92$$

$$4 \times 4 = 16 + 2 = 18$$

$$18 \times 4 = 72 + 27 = 100$$

$$2 \times 2 = 4$$

$$2 \times 7 = 14$$

$$2 \times 3 = 6 - 4 = 2$$

$$2^3 - 2^2 = 8 - 4 = 4$$

$$3^3 - 3^2 = 27 - 9 = 18$$

$$4^3 - 4^2 = 64 - 16 = 48$$

$$5^3 - 5^2 = 125 - 25 = 100$$

$$6^3 - 6^2 = 216 - 36 = 180$$

$$7^3 - 7^2 = 343 - 49 = 294$$

$$7^3 - 7^2 = 343 - 49 = 294$$

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b- Given:-

Tahir's initial capital = Rs 15,000

After 5 months Umar's investment = Rs 30,000

At start of 9 months, Usman invest = Rs 45,000

Profit after 12 months (1 year) = Rs 406,000

To find:-

Share of each = ?

$$\begin{aligned} \text{Tahir} & : \text{Umar} : \text{Usman} \\ 15000 & : 30000 : 45000 \end{aligned}$$

$$\begin{aligned} 15 & : 30 : 45 \\ 1 & : 2 : 3 \end{aligned}$$

$$\text{Total Ratio} = 1 + 2 + 3 = 6$$

~~$$\text{Tahir's share in profit} = \frac{1}{6} \times \frac{5000}{15000}$$~~

~~$$\text{Tahir's share} = \text{Rs } 2500$$~~

~~$$\text{Umar's share in profit} = \frac{2}{6} \times \frac{5000}{30,000}$$~~

~~$$\text{Umar's share} = \text{Rs } 10,000$$~~

~~$$\text{Usman's share in profit} = \frac{3}{6} \times \frac{5000}{45,000}$$~~

~~$$\text{Tahir's share} = \frac{1}{6} \times 406,000$$~~

~~$$= \frac{1}{3} \times 203,000$$~~
~~$$= \text{Rs } 67,666.6$$~~

~~$$\text{Umar's share} = \frac{2}{6} \times 406,000$$~~
~~$$= \text{Rs } 1,35,333.3$$~~

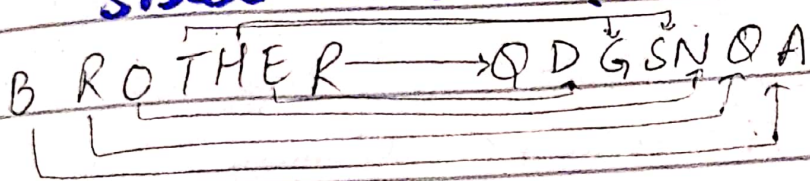
Rough.

1
67666
135333
203000
405999

(3)
 Usman's share = $\frac{31}{62} \times 406000$

Usman's share = 203000

C
 Code Brother is QDGSNQA
 sister code = ?



- | | |
|-------|-------|
| B → A | S → T |
| R → Q | I → J |
| O → N | S → T |
| T → S | T → S |
| H → G | E → D |
| E → D | R → Q |
| R → Q | |

SISTER → TJTSDQ

d Given:-

$$\text{Track} = 2000\text{m}$$

$$\text{Aspirant covers} = 25\%$$

To find:-

how much still left to cover = ?

Sol:-

$$\text{Total length of track is} = 2000\text{m}$$

$$25\% \text{ of } 2000 = \frac{2000 \times 25}{100}$$

$$= 20 \times 25$$

$$\text{Distance covered by aspirant} = 500\text{m}$$

$$\begin{array}{r} 20 \\ \times 25 \\ \hline 100 \\ 400 \\ \hline 500 \end{array}$$

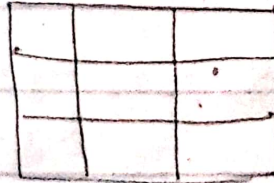
$$\text{Distance left to be covered} = 2000 - 500$$

$$= 1500\text{m}$$

distance still left to covered = 1500m

Q8

a No. of square in figure.



There are 9 number of squares

So let sugar amount = x
 flour " = y

for Ladoo

By given data $4x + 2y = 260 \rightarrow (1)$

for Barfi

$6x + 4y = 160 \rightarrow (2)$

By solving them

multiply eq (1) with 2 -

$8x + 4y = 520$

$6x + 4y = 160$

$2x = 360$

$x = 180$

put in eq (2)

$4x + 2y = 260$

$4(180) + 2y = 260$

$720 + 2y = 260$

$2y = 260 - 720$

$2y = -460$

$y = -230$

$x = 180$

180
 ↓
 sugar

$y = 230$

↓
 flour

R.W
6
$12x + 8y = 520$
$16x + 8y = 1640$
2
$2x + y = 130$
$3x + 2y = 80$
$6x + 3y = 390$
$6x + 4y = 160$
$-y = 230$

$\begin{matrix} 720 \\ 260 \\ \hline 460 \end{matrix}$

$\begin{matrix} 1020 - 920 \\ \hline 100 \end{matrix}$

(7)

d

$$U = \{1, 2, 3, 4, 5, \dots, 10\}$$

$$\text{1st 4 Prime numbers} = \{2, 3, 5, 7\}$$

find complement = ?

let $A = \{2, 3, 5, 7\}$

$$U = \{1, 2, 3, \dots, 10\}$$

$$A^c = U - A = \{1, 2, 3, \dots, 10\} - \{2, 3, 5, 7\}$$

$$A^c = \{1, 4, 6, 8, 9, 10\}$$