

Q6

General Instructions

Identify the series

4, 18, 100, —, 294

1. Give numbering to headings
2. Do not write lengthy paragraphs. Write medium sized paragraphs with headings.
3. Do not use table for comparison and contrast questions. Give small paragraphs with headings instead.
4. Draw figures/diagram/flowchart/map in every question.
5. Start new question from fresh page.
6. Explain the steps in your mathematical calculations.
7. Do not forget to write the unit of your answer while attempting mathematics questions.
8. Do not use lead pencil. Only blue and black colours are allowed.

= 180 ans

Rough work

$4 \times 1 = 4$

$4 \times 2 = 8$

8

4, 18, 100, —, 294

$4 \times 2 = 8$
 $8 \times 2 = 16$
 $16 \times 2 = 32$
 $32 \times 2 = 64$
 $64 \times 2 = 128$
 $128 \times 2 = 256$
 $256 \times 2 = 512$

$4 \times 23 = 92$

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

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

$2 \times 2 = 4$
 $2 \times 1 = 2$

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

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

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

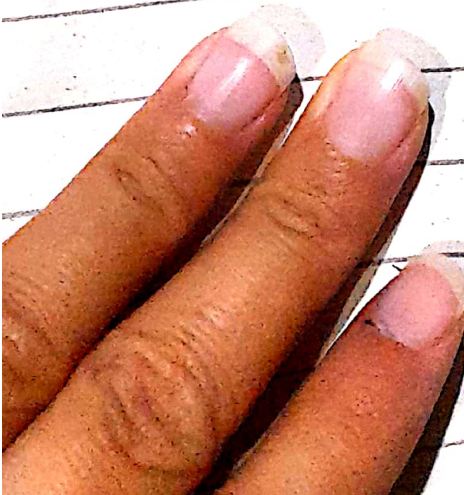
$4^3 - 4^2 = 64 - 16 = 48$

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

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

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

49
 67
 343
 49
 294



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 = ?

Tahir : Umar : Usman
15000 : 30000 : 45000

15 : 30 : 45
1 : 2 : 3

Total Ratio = 1 + 2 + 3 = 6

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

~~Tahir's share = Rs 2500~~

~~Umar's share in profit = $\frac{2}{6} \times \frac{5000}{30000}$~~

~~Umar's share = 10,000~~

~~Usman's share in profit = $\frac{3}{6} \times \frac{5000}{45000}$~~

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

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

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

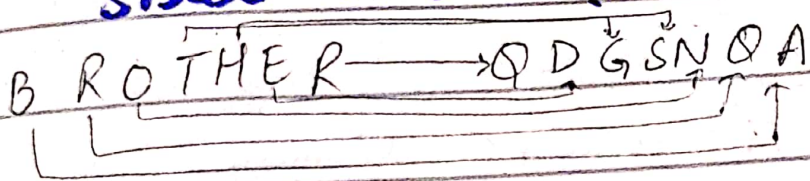
Rough:

1
67666
135333
203000
405999

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

Usman's share = 203000

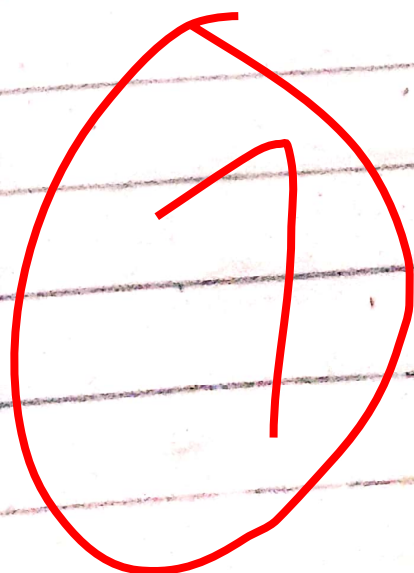
C
 Code Brother is QDGSNQA
 sister code = ?



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

- S → T
- I → J
- S → T
- T → S
- E → D
- R → Q

SISTER → TJTSDQ



d Given:-

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

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

To find:-

how much still left to cover?

Sol:-

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

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

$$= 20 \times 25$$

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

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

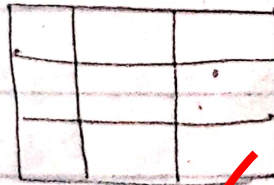
$$\text{distance left to be covered} = 2000 - 500$$

$$= 1500\text{m}$$

distance still left to covered = 1500m

Q8

a No. of square in figure.



There are 9 number of squares

14

b No. of observations = 14

26, 12, 14, 15, x, 17, 9, 11, 18, 16, 28, 20, 22, 8

Arithmetic mean = 17

Ans.

$$A.M = \frac{\text{Sum of observations}}{\text{Total no. of observations}}$$

$$17 = \frac{26 + 12 + 14 + 15 + x + 17 + 9 + 11 + 18 + 16 + 28 + 20 + 22 + 8}{14}$$

$$17 \times 14 = 216 + x$$

$$238 = 216 + x$$

$$238 - 216 = x$$

$$\boxed{22 = x}$$

c sugar flour

4 kg 2 kg → 1 kg of laddoo

6 kg 4 kg → 1 kg of barfi

If

260 kg 160 kg → kg of laddoo ?
kg of barfi ?

Solution

Laddoo	4 : 2
1 kg	2 : 1

260

barfi	6 : 4
	3 : 2

R.W (6)

26	
12	2
14	14
15	68
17	7x
9	238
11	22
18	260
16	14
28	17
20	14
22	260
8	14
216	120
	98
	17
	22
	14
	238
	16
	98
	98

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
$12x + 8y = 320$
$16x + 8y = 160$
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 $A = \{2, 3, 5, 7\}$

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

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

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

