Quiz Date: 13th February 2020

Directions (1-5): What will come in the place of the question mark (?) in the following number series?

Q1. 18, 55, 167, 504, ?, 4553
(a) 1216
(b) 1516
(c) 1520
(d) 1816
(e) 1220

Q2. 279, 294, 324, 369, 429, ?
(a) 504
(b) 520
(c) 564
(d) 604
(e) 524

Q3. 10, 26, 50, 110, 320, ?
(a) 825
(b) 1245
(c) 1065
(d) 1265
(e) 1625

Q4. 286, 142, ?, 34, 16, 7
(a) 54
(b) 70
(c) 60
(d) 64
(e) 50

Q5. 200, 320, 464, 613, 786, 964 , ?
(a) 1284
(b) 1066
(c) 1166
(d) 1612
(e) 1264

Q6. Difference between 40% of y and 20% of x is 270 whereas difference between 40% of x and 20% of y is zero. Find the sum of 'x' and 'y'? (Note – x and y are natural numbers)
(a) 1250
(b)1400
(c) 1200
(d) 1350
(e)1500

Q7. Speed of Satish is 40% of speed of Aman. Aman covers 2340 m in 18 seconds. Find in how much time Satish can cover 468 m.
(a) 8 seconds
(b) 9 seconds
(c) 10 seconds
(d) 11 seconds
(e) 12 seconds

Q8. A retailer buy article A and markup it 20 % above its cost price. At the time of sale if he gave 10% discount instead of 20% and he earns Rs. 4.8 more. Find the cost price of the article A.
(a) Rs. 100
(b) Rs. 80
(c) Rs. 60
(d) Rs. 40
(e) Rs. 50

Q9. A boatman can cover a river of 60 km length and came back at its initial point in 4.5 hrs. If speed of boat in still water is thrice than that of the speed of stream, then find the speed of boat in still water?
(a) 10 kmph
(b) 30 kmph
(c) 20 kmph
(d) 60 kmph
(e) 25 kmph

Q10. Area of a given circle is 616 m². Perimeter of a rectangle is same as perimeter of circle. Find the diagonal of the rectangle if length of rectangle is 20% more than the breadth of the rectangle.
(a) $2\sqrt{59}$ m
(b) $2\sqrt{62}$ m
(c) $4\sqrt{61}$ m
(d) $4\sqrt{15}$ m
(e) $2\sqrt{65}$ m

Q11. A, B and C started a business with Rs 60,000. Amount invested by 'A and C' together is twice than that of 'B' while amount invested by 'A' and 'B' together is thrice than that of 'C'. 'A' invested for 6 months, 'B' for 9 months and 'C' for a year. Find the share of 'B' out of total profit of Rs 3400.(in Rs.)
(a) 1200
(b) 1800
(c) 1000
(d) 1400
(e) 1500

Q12. The population of a village is 4500. If number of males increases by 15% and number of females increases by 25% then the population of village become 5325. Number of males is what percent of the Number of females in the village.
(a) 100%
(b) 125%
(c) 150%
(d) 175%
(e) 200%

Q13. A spherical cannon ball of diameter 24 cm is melted and casted into two cylinders of equal size and shape having base radius 8 cm. Find the height of each cylinder?
(a) 36 cm
(b) 18 cm
(c) 32 cm
(d) 20 cm
(e) 16 cm

Q14. A mixture contains wine and water in the ratio 5 : 1. On adding 5 liters of water, the ratio of wine to water becomes 5 : 2. find out the quantity of wine in the mixture?
(a) 20 l
(b) 22 l
(c) 24 l
(d) 26 l
(e) 25 l

Q15. 'X', 'Y' and 'Z' together can complete a work in one day. 'X' and 'Z' together can-do the same work as 'Y' alone do while 'Y' and 'Z' together can do five time as much work as 'X' do alone. Find the time taken by 'Z' to complete the same work?
(a) 2 days
(b) 3 days
(c) 4 days
(d) 6 days
(e) 1 days

Q16. Difference between CI and SI on a sum for 3 year at 20% p.a. is 176, Find the simple interest on the sum after 2 year at 10% p.a.?
(a) Rs. 225
(b) Rs. 250
(c) Rs. 275
(d) Rs. 300
(e) Rs. 350

Q17. How many 4 digits number can be formed using 2, 3, 5, 7, 6 and 9 if the number should be divisible by '4' and repetition is not allowed?
(a) 120
(b) 96
(c) 160
(d) 64
(e) 296

Directions (18-25): What should come in place of question mark (?) in the following questions?

Q18. $2652 - 441 + 928 - 6\frac{2}{3}\% \ of \ 3375 = ? + (31)^2$
(a) 1953
(b) 1853
(c) 1825
(d) 1935
(e) 1950

Q19. $(3080 + 6160) \div ? = 330$
(a) 27
(b) 25
(c) 28
(d) 24
(e) 23

Q20. $5\frac{15}{17}\% \ of \ 4913 - (15)^2 = (?)^2$
(a) 9
(b) 11
(c) 7

(d) 6
(e) 8

Q21. $? \times (523.5 + 687.5) = 24220.$
(a) 31
(b) 20
(c) 42
(d) 18
(e) 24

Q22. $(272 - 32) \times (124 + 176) \div (17 \times 15 - 15) = ? + 15 \times 16$
(a) 50
(b) 65
(c) 72
(d) 60
(e) 55

Q23. 125% of $92 - \sqrt[3]{4096} + ? = \sqrt{10201}$
(a) 5
(b) 2
(c) 4
(d) 3
(e) 9

Q24. $3\frac{1}{2} + 4\frac{3}{4} + 9\frac{3}{4} + 6\frac{7}{8} = ? + 5\frac{3}{4} \times \frac{1}{2} + 19$
(a) 13
(b) 9
(c) 16
(d) 3
(e) 2

Q25. $(1156)^{1/2} - (1728)^{1/3} + 178 - (?)^2 = \sqrt{2025} + 55$
(a) 100
(b) 12

(c) 144
(d) 15
(e) 10

Solutions

S1. Ans.(b)
Sol.
Pattern is
18 × 3 + 1 = 55
55 × 3 + 2 = 167
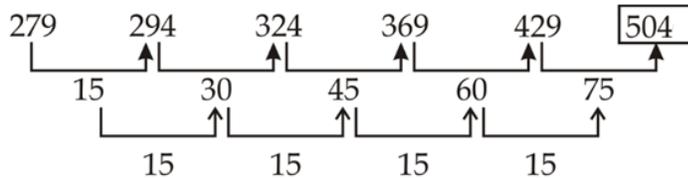167 × 3 + 3 = 504
504 × 3 + 4 = 1516
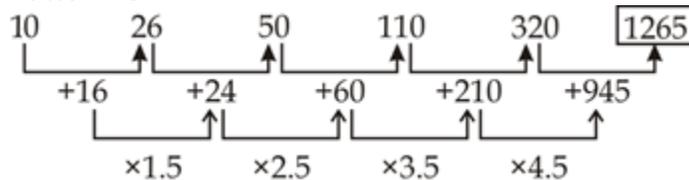
S2. Ans.(a)
Sol.
Pattern is

S3. Ans.(d)
Sol.
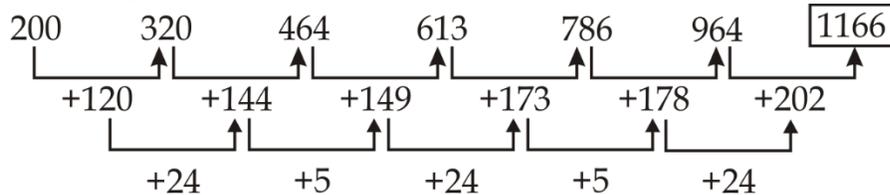Pattern is

S4. Ans.(b)
Sol.
Pattern is

$$\frac{286}{2} - 1 = 142, \frac{142}{2} - 1 = 70, \frac{70}{2} - 1 = 34, \frac{34}{2} - 1 = 16$$

S5. Ans.(c)
Sol.
Pattern is

S6. Ans.(d)
Sol.
$\frac{40}{100} y - \frac{20}{100} x = 270$
$\Rightarrow 2y - x = 1350$ ...(i)
and $\frac{40}{100} x - \frac{20}{100} y = 0$
$2x - y = 0$ ...(ii)
On solving (i) & (ii)
x = 450
y = 900
Required sum = 1350

S7. Ans.(b)
Sol.
Speed of Aman $= \frac{2340}{18} = 130$ m/s
Speed of Satish $= \frac{40}{100} \times 130 = 52$ m/s
Time taken by Satish $= \frac{468}{52} = 9$ seconds

S8. Ans.(d)
Sol.
Let C.P. of A = x
Marked price of article = 1.2x
ATQ,
1.2x × 0.9 – 1.2x × 0.8 = 4.8
1.2x × 0.1 = 4.8
x = 40

S9. Ans.(b)
Sol.
Let, speed of stream = x
Speed of boat = 3x
ATQ,

$\frac{60}{3x+x} + \frac{60}{3x-x} = 4.5$

$\frac{60}{4x} + \frac{60}{2x} = 4.5$

$\frac{15}{x} + \frac{30}{x} = 4.5$

$\Rightarrow x = 10$

Speed of boat = 30 km/hr

S10. Ans.(c)
Sol.
$\pi r^2 = 616$
$\Rightarrow r = 14$ m
Perimeter of rectangle = Perimeter of circle = $2\pi r = 2 \times \frac{22}{7} \times 14 = 88$
And,
$2(\ell + b) = 88$
$(1.2b + b) = 44$
$2.2b = 44$
$b = 20$
$\ell = 24$
Diagonal = $\sqrt{20^2 + 24^2} = \sqrt{976} = 4\sqrt{61}$ m

S11. Ans.(a)
Sol.
Let, amounted invested by A, B and C is 'a', 'b' and 'c' respectively.
ATQ.
a + c = 2b   ...(i)
a + b = 3c   ...(ii)
on solving (i) & (ii) we get
4a = 5b & 3b = 4c
$\Rightarrow$ a : b : c
  5 : 4 : 3
Ratio of profit

A	:	B	:	C
5×6	:	4×9	:	3×12
5	:	6	:	6

B's profit = $\frac{6}{17} \times 3400 = Rs.\,1200$

S12. Ans.(e)
Sol.
Let, Number of males in village = x
And, number of females in village = y
ATQ,
x + y = 4500   ..(i)
1.15x + 1.25y = 5325   ...(ii)

On solving (i) & (ii)
X = 3000, y = 1500
Required % $= \frac{3000}{1500} \times 100 = 200\%$

S13. Ans.(b)
Sol.
Volume of spherical ball = Volume of 2 cylinder
$\frac{4}{3} \times \pi \times (12)^3 = 2 \times \pi \times 8^2 \times h$
⇒ h = 18 cm

S14. Ans.(e)
Sol.
Let wine and water be $5x$ litre and x litre respectively
Now, $\frac{5x}{x+5} = \frac{5}{2} \Rightarrow 10x = 5x + 25$
$x = 5$
⇒   25 : 5   │   25 : 10
        Before mixture │ After mixture

Quantity of wine = 25ℓ

S15. Ans.(b)
Sol.
Let 'X', 'Y' and 'Z' can complete a, b and c unit of work in one day.
ATQ,
a + c = b ...(i)
b + c = 5a ...(ii)
On solving (i) and (ii)
$a = \frac{b}{3} = \frac{c}{2}$
⇒ a : b : c
   1 : 3 : 2
(1 + 2 + 3) unit of work → 1 day
(6) unit of work → 1 day
2 unit of work → $\frac{6}{2}$ day = 3 days

S16. Ans.(c)
Sol.
Let sum = Rs. 250
C.I. for 3 year at 20% pa $= 250 \times \left(\frac{12}{10}\right)^3 - 250$
 = 182
SI for 3 year at 20% pa
$= \frac{250 \times 3 \times 20}{100} = 150$
Difference = 182 – 150 = 32 → 176

$\Rightarrow \text{Sum} = \frac{176}{32} \times 250 = 1375$

Required Interest $= \frac{1375 \times 2 \times 10}{100}$

$= 275$

OR

Alternate method

Difference $= \frac{P \, r^2}{100^2} \times \frac{(300+r)}{100}$

$176 = \frac{P \times 20^2}{100^2} \times \frac{(300+20)}{100}$

Therefore,

P = 1375

Required Interest $= \frac{1375 \times 2 \times 10}{100}$

$= 275$

S17. Ans.(b)

Sol.

The number which should be divisible by 4 will end with 32, 52, 72, 92, 36, 56, 76 and 96 (Total 8 ways)

Starting two numbers can be chosen in 4 × 3 = 12 ways

Total no. of ways = 12 × 8 = 96 ways

S18. Ans.(a)

Sol. $2652 - 441 + 928 - \frac{1}{15} \times 3375 = ? + 961$

$2652 - 441 + 928 - 225 - 961 = ?$

? = 1953

S19. Ans.(c)

Sol. $9240 \times \frac{1}{?} = 330$

? = 28

S20. Ans.(e)

Sol. $\frac{1}{17} \times 4913 - 225 = (?)^2$

$(?)^2 = 64$

? = ±8

? = 8

S21. Ans.(b)

Sol. ? × 1211 = 24220

? = 20

S22. Ans.(d)

Sol. $240 \times 300 \times \frac{1}{240} = ? + 240$

? = 300 – 240
? = 60

S23. Ans.(b)
Sol. $\frac{5}{4} \times 92 - 16 + ? = 101$
$99 + ? = 101$
? = 2

S24. Ans.(d)
Sol. $(3 + 4 + 9 + 6) + \left(\frac{1}{2} + \frac{3}{4} + \frac{3}{4} + \frac{7}{8}\right) = ? + \frac{23}{8} + 19$
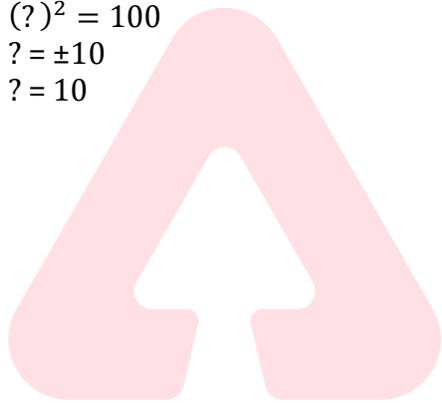$22 + \frac{23}{8} = ? + \frac{23}{8} + 19$
? = 3

S25. Ans.(e)
Sol. $34 - 12 + 178 - (?)^2 = 45 + 55$
$200 - 100 = (?)^2$
$(?)^2 = 100$
$? = \pm10$
$? = 10$