Quiz Date: 12th July 2020

Directions (1-5): Find the missing term in place of question mark (?) in the following number series.

Q1. 7, 30, 66, 117, 186, ?, 400
(a) 255
(b) 276
(c) 287
(d) 278
(e) 308

Q2. 4, 9, 17, 36, ?, 143, 283
(a) 72
(b) 70
(c) 68
(d) 141
(e) 69

Q3. 123, 340, 724, ?, 2186
(a) 1320
(b) 2184
(c) 1324
(d) 1322
(e) 2190

Q4. 2, 4, 7, 12, 23, ?
(a) 56
(b) 67
(c) 43
(d) 148
(e) 76

Q5. 129, 142, 181, ?, 337, 454
(a) 324
(b) 298
(c) 272
(d) 220
(e) 246

Q6. Abhishek and Abhinandan together can complete a work in 20 days. Abhinandan started to work alone and completes $\frac{2}{3}$ work and remaining work is completed by Abhishek alone. They completed the work in total 39 days. Find in how many days Abhinandan alone can complete the work if he works for whole number of days?
(a) 45 days

(b) 36 days
(c) 30 days
(d) 24 days
(e) 60 days

Q7. Sunny bought two articles A and B. Ratio between cost price of article A to article B is 4 : 5. He marked article 'A' 150% above its cost price and give 40% discount at the time of selling. If profit earned on both article and mark price of both article is same, then find discount given on article 'B'?
(a) 25%
(b) 35%
(c) 40%
(d) 30%
(e) 20%

Q8. 'A' and 'B' starts a business together. B's investment is 30% more than that of 'A' while B invested 2 months more than that of 'A'. If out of total profit of Rs.1845, A got Rs.675 then the time for 'B' invested?
(a) 10 months
(b) 12 months
(c) 6 months
(d) 4 months
(e) 8 months

Q9. Pipe A and B together can fill a tank in 24 minutes while with pipe 'C,' all three can fill the tank in 20 minutes. Find the time in which 25% of the tank is filled by pipe 'A' alone if pipe 'B' is 100% more efficient than Pipe 'C'?
(a) 20 minutes
(b) 15 minutes
(c) 10 minutes
(d) 30 minutes
(e) 40 minutes

Q10. In how many ways a four-digit number can be formed using starting ten whole numbers such that it is divisible by '4' and repetition isn't allowed?
(a) 1200

(b) 720
(c) 1120
(d) 1080
(e) 900

Direction (11-15): Read the given data carefully and answer the following questions. The given table shows the difference of selling price and cost price for six shopkeepers and the mark-up percentage above the cost price.

Shopkeeper	**Difference of selling price and cost price**	**Mark-up percentage above the cost price**
A	300	60%
B	500	80%
C	400	75%
D	600	$66\frac{2}{3}\%$
E	200	50%
F	300	75%

Q11. Shopkeeper C sells his article at a discount of Rs 700 and in curs a loss. Then, find the marked price marked by shopkeeper C.
(a) Rs 900
(b) Rs 700
(c) Rs 1000
(d) Rs 1200
(e) Rs 1250

Q12. For shopkeeper B and E, cost price of the articles are equal and the marked price of B is Rs 300 more than that of E. then, find the ratio of SP of E to B, and both sells their article at profit.
(a) 4 : 5
(b) 3 : 4
(c) 5 : 6
(d) 5 : 8
(e) 2 : 3

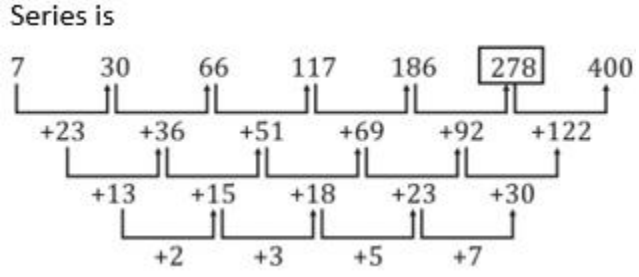
Q13. Shopkeeper D makes same profit as before by selling an article at the successive discounts of 10% and 20%. Find the profit percent if he sells that article at a discount of Rs 1250.
(a) 20%
(b) 15%
(c) 30%
(d) 40%
(e) None of these

Q14. Ratio of CP for shopkeepers A, B and F is 3 : 2 : 4 and each shopkeeper sells his article at profit. Find selling price of A is what percent of selling price of B if F Sells his article at a discount of Rs 600.
(a) 110%
(b) $114\frac{1}{11}\%$
(c) $109\frac{1}{11}\%$
(d) $112\frac{3}{11}\%$
(e) $112\frac{8}{11}\%$

Q15. Ratio of MP for C to E is 7 : 6. Find the difference of their SP if C sells his article at profit and E sells his article at the loss.
(a) Rs 400
(b) Rs 200
(c) Rs 600
(d) Rs 800
(e) Rs 1000

Solutions

S1. Ans.(d)
Sol.
Series is



S2. Ans.(b)
Sol.
Pattern is × 2 + 1, × 2 – 1, × 2 + 2, × 2 – 2, × 2 + 3, × 2 – 3 ...
∴ ? = 36 × 2 – 2
= 70

S3. Ans.(c)
Sol.
Series is $5^3 - 2 = 125 - 2 = 123$
$7^3 - 3 = 343 - 3 = 340$
$9^3 - 5 = 729 - 5 = 724$
$11^3 - 7 = 1331 - 7 = \boxed{1324}$
$13^3 - 11 = 2197 - 11 = 2186$

S4. Ans.(a)
Sol.
Pattern is × 4 – 4, × 4 – 9, × 4 – 16, × 4 – 25, ...
∴ ? = 23 × 4 – 36
= 56

S5. Ans.(e)
Sol.
Pattern is +13×1, +13×3, +13×5, +13×7, +13×9, ...
∴ ? = 181 + 13 × 5 = 246

S6. Ans.(b)
Sol.
Let Abhishek and Abhinandan can complete work alone in 'x' and 'y' days respectively.
ATQ,
$\frac{1}{x} + \frac{1}{y} = \frac{1}{20} \ldots\ldots(i)$
And,
$\frac{x}{3} + \frac{2y}{3} = 39 \ldots\ldots(ii)$
On solving (i) and (ii), We got two values of x and y
But as y should be whole number so
$x = 45, y = 36$
Abhinandan alone can complete work in 36 days

S7. Ans.(d)
Sol.
Let cost price of article 'A' and 'B' be 400x and 500x respectively.
Mark price of article 'A' = $400x \times \frac{250}{100} = 1000x$
Selling price of article 'A' = $1000x \times \frac{60}{100} = 600x$
Profit earned on article 'A' = $200x$ = Profit earned on article 'B'x
Selling price of article 'B' = $500x + 200x = 700x$
Discount given on article 'B' = $\frac{1000x - 700x}{1000x} \times 100 = 30\%$

S8. Ans.(e)

Sol.
Let A invested for '(x-2)' months and B invested for 'x' months
And Let A's investment be 'y' then B's investment is 1.3y
Ratio of Profit share of A and B is
$y \times (x-2) \ : \ 1.3y \times x \rightarrow 675 : (1845-675)$
$\frac{x-2}{1.3x} = \frac{15}{26}$
$26x - 52 = 19.5x$
$x = 8\ months$
B invested for 8 months

S9. Ans.(c)
Sol.
Pipe C alone can file the tank completely in $\frac{24\times20}{24-20} = 120\ minutes$
Pipe B alone can fill the tank completely in $\frac{120}{2} = 60\ minutes$
Pipe 'A' alone can fill the tank completely in $\frac{24\times60}{60-24} = 40\ minutes$
Pipe 'A' alone can fill 25% tank in $= \frac{40}{4} = 10\ minutes$

S10. Ans.(c)
Sol.
A number is divisible by four if last two digits are divisible by 4 like 04, 08.....96 total 24 numbers out of which two numbers i.e, 44 and 88 repeat itself.
So, there are 22 numbers which can be used.
Out of 22 numbers 6 numbers end with 04, 40, 08, 80, 20, 60. In these numbers zero is used.
So total ways to form these 6 numbers = $8 \times 7 \times 6 = 336$
And remaining numbers can be formed in $7 \times 7 \times 16 = 784$
Total number of ways = $784 + 336 = 1120$

S11. Ans.(b)
Sol.
Let the cost price be Rs x
Selling price = Rs (x- 400)
MP = Rs x × 1.75 = Rs 1.75x
Atq,
x – 400 = 1.75x – 700

⇒ 0.75x = 300 ⇒ x = 400
Marked price = Rs 700

S12. Ans.(a)
Sol.
Let the cost price for shopkeeper B and E each be Rs x
MP for B = Rs 1.8x
MP for E = Rs 1.5x
Atq,
1.8x – 1.5x = 300
⇒ x = Rs 1000
Required ratio $= \frac{1200}{1500} = 4 : 5$

S13. Ans.(e)
Sol.
Let CP be Rs 3x
MP will be Rs 5x
SP = $5x \times \frac{90}{100} \times \frac{80}{100} = Rs\ 3.6x$
Atq,
0.6x = 600
⇒ x = 1000
MP = Rs 5000
CP = Rs 3000
New SP = Rs 3750
Required profit % $= \frac{750}{3000} \times 100 = 25\%$

S14. Ans.(c)
Sol.
Let the CP for A, B and F be Rs 3x, 2x and 4x respectively.
S.P for A = 3x+300
S.P for B = 2x+ 500
SP for F = Rs (4x + 300)
MP for F = 4x × 1.75 = Rs 7x
Atq,
7x – (4x + 300) = 600
⇒ 3x – 300 = 600 ⇒ x = 300
Selling price for A = 900 + 300 = Rs 1200
Selling price for B = 2 × 300 + 500 = Rs 1100
Required % $= \frac{1200}{1100} \times 100 = 109\frac{1}{11}\%$

S15. Ans.(c)
Sol.
Let the MP for C and E be Rs 700x and 600x respectively.

CP for C $= \frac{700x}{175} \times 100 = 400x$
CP for E $= \frac{600x}{150} \times 100 = 400x$
Required difference = (400x + 400) – (400x – 200)
= Rs 600