

Quiz Date: 12th June 2020

Q1. The radius of a circular field is equal to the side of a square field. If the difference between the perimeter of the circular field and that of the square field is 32m, what is the perimeter of the square field? (in meter)

- (a) 84
- (b) 95
- (c) 56
- (d) 28
- (e) 112

Q2. The volume of the solid is 3120 cubic metre. If the height of the solid is 16 m and length of the solid is 15 m, what is the surface area (in sq. metre) of the solid?

- (a) 1826
- (b) 1268
- (c) 1395
- (d) 1286
- (e) 643

Q3. The areas of three consecutive faces of a cuboid are 12 cm^2 , 20 cm^2 and 15 cm^2 , then the volume (in cm^3) of the cuboid is

- (a) 3600
- (b) 100
- (c) 80
- (d) 60
- (e) 120

Q4. A ball of lead 4 cm in diameter is covered with gold. If the volume of the gold and lead are equal, then the thickness of gold [given $\sqrt[3]{2} = 1.259$] is approximately

- (a) 5.038 cm
- (b) 5.190 cm
- (c) 1.038 cm
- (d) 0.518 cm
- (e) 5.18 cm

Q5. The diameter of the base of a cylindrical drum is 35 dm and the height is 24 dm. It is full of kerosene. How many tins each of size $25\text{ cm} \times 22\text{ cm} \times 35\text{ cm}$ can be filled with kerosene from the drum?

(use $\pi = 22/7$)

- (a) 1200
- (b) 1020
- (c) 600
- (d) 120
- (e) 160

Q6. When an article is sold at $\frac{4}{5}$ th of its selling price, there is a loss of 28%. What will be profit percentage, when the same article is sold at $\frac{6}{5}$ th of the its selling price?

- (a) 100/9%
- (b) 8%
- (c) 10%
- (d) $\frac{25}{2}$ %
- (e) 15%

Q7. If a discount of 30% given on the marked price of an article, the shopkeeper gets a profit of 5%. Find his percent loss, when he allows two successive discounts of 36% and 25% on the marked price?

- (a) 20%
- (b) 25%
- (c) 30%
- (d) 15%
- (e) 28%



Q8. A trader bought two horses for Rs. 8,400. He sold first horse at 4% loss while second horse at 17% profit, if his overall gains was Rs. 420. Find the cost price of the horse, which sold at 17% profit.

- (a) Rs. 3,600
- (b) Rs. 4,000
- (c) Rs. 3,250
- (d) Rs. 2,700
- (e) Rs. 4500

Q9. Sumit purchased two watches for Rs. 17241. He sold first watch at 6% loss and second at 8% profit and found that the loss amount is equal to the profit amount. Then, find the difference between cost price of both watches.

- (a) Rs. 1425
- (b) Rs. 2463
- (c) Rs. 2163
- (d) Rs. 2263
- (e) Rs. 2563

Q10. Selling price of 2.4 kg of rice is Rs. 144 and selling price of 4.8 kg of pulse is Rs. 216 and seller get 20% profit on rice and 25% loss on pulse. Then cost price of one kg of rice is what percent of cost price of one kg of pulse?

- (a) $73\frac{1}{3}\%$
- (b) $83\frac{1}{3}\%$
- (c) $80\frac{1}{3}\%$
- (d) $79\frac{1}{3}\%$
- (e) $78\frac{1}{3}\%$

Directions (11 - 15): In the following number series one of the numbers is wrong. Find out the wrong one, put it in place of (A) and form a new series based on the same pattern as given in question and find the number that should come in place of (E).

Q11. 1231, 1374, 1554, 1824, 2147, 2546

- (A) , (B) , (C) , (D) , (E)
- (a) 2430
 - (b) 2280
 - (c) 2670
 - (d) 2470
 - (e) 2350

Q12. 5539, 5536, 5528, 5506, 5314, 2242

- (A) , (B) , (C) , (D) , (E)
- (a) 4238
 - (b) 5303
 - (c) 6529
 - (d) 2341
 - (e) 2639

Q13. 1240, 1492, 1756, 2032, 2328, 2620

- (A) , (B) , (C) , (D) , (E)
- (a) 8340
 - (b) 2538
 - (c) 5204
 - (d) 2650
 - (e) 3408

Q14. 3760, 3763, 3749, 3777, 3721, 3833

- (A) , (B) , (C) , (D) , (E)
- (a) 3725
 - (b) 3526

- (c) 3628
 (d) 3927
 (e) 4272

Q15. 1256, 1258, 1260, 1278, 1326, 1426

(A) , (B) , (C) , (D) , (E)

- (a) 1762
 (b) 1544
 (c) 1328
 (d) 1620
 (e) 1840



Solutions

S1. Ans.(c)

Sol.

Radius of circular field = side of square field

= a (let)

ATQ,

$$2\pi a - 4a = 32$$

$$\Rightarrow a = \frac{32 \times 7}{(44 - 28)}$$

$$= 14 \text{ m}$$

\therefore Perimeter of square field = 56 m

S2. Ans.(d)

Sol.

Let dimensions of rectangular solid are ℓ , b & h metres respectively.

$$\therefore 15 \times 16 b = 3120$$

$$\Rightarrow b = 13 \text{ m}$$

$$\therefore \text{Surface area} = 2 \times (\ell b + bh + \ell h)$$

$$= 2 \times (195 + 13 \times 16 + 15 \times 16)$$

$$= 1286 \text{ m}^2$$

S3. Ans.(d)

Sol.

Let length, breadth and height of the cuboid be x, y and z.

Then, area of three consecutive faces, i.e., xy, yz and zx is 12, 20 and 15, respectively

$$\therefore x^2y^2z^2 = 12 \times 20 \times 15$$

$$xyz = \sqrt{12 \times 20 \times 15} = 60 \text{ cm}^2$$

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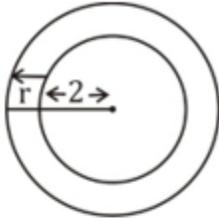
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S4. Ans.(d)

Sol.

Let the thickness of gold be r.



Then, volume of gold = Volume of ball - Volume of lead ball

Volume of gold

$$= \frac{4}{3}\pi(2+r)^3 - \frac{4}{3}\pi(2)^3 \dots\dots\dots(i)$$

Now, it is given that Volume of gold

= Volume of lead ball

$$\text{So, } \frac{4}{3}\pi(2)^3 = \frac{4}{3}\pi(2+r)^3 - \frac{4}{3}\pi(2)^3$$

$$\frac{4}{3}\pi(2)^3 + \frac{4}{3}\pi(2)^3 = \frac{4}{3}\pi(2+r)^3$$

$$\Rightarrow \frac{8}{3}\pi(2)^3 = \frac{4}{3}\pi(2+r)^3$$

$$\Rightarrow 2(2)^3 = (2+r)^3$$

$$\Rightarrow \sqrt[3]{2 \times 2} = 2+r$$

$$\Rightarrow 1259 \times 2 = 2+r$$

$$(\because \sqrt[3]{2} = 1.259)$$

$$\Rightarrow 2.518 = 2+r$$

$$\therefore r = 2.518 - 2 = 0.518 \text{ cm}$$

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S5. Ans.(a)

Sol.

Number of tins

$$\begin{aligned}
 &= \frac{\text{Volume of cylindrical drum}}{\text{Volume of a tin}} \\
 &= \frac{\pi r^2 h}{l b h} \\
 &= \frac{22 \times 350 \times 350 \times 240}{7 \times 2 \times 2 \times 25 \times 22 \times 35} \\
 &= 1200 \text{ times are required}
 \end{aligned}$$

S6. Ans.(b)

Sol.

Let that SP of article = Rs. 100x

Now, SP when article sold at $\frac{4}{5}$ th of its selling price

$$= \frac{4}{5} \times 100x = \text{Rs. } 80x$$

Now, CP of article = $\frac{80x}{72} \times 100 = \text{Rs. } \frac{1000x}{9}$ Again, SP when article sold its $\frac{6}{5}$ th of its selling price

$$= \frac{6}{5} \times 100x = \text{Rs. } 120x$$

$$\text{Required profit \%} = \frac{120x - \frac{1000x}{9}}{\frac{1000x}{9}} \times 100$$

$$= \frac{\frac{80x}{9}}{\frac{1000x}{9}} \times 100$$

$$= \frac{80x}{10x}$$

$$= 8\%$$

S7. Ans.(e)

Sol.



Let the MP of article = Rs. $100x$

SP of article = $100x - 30x = \text{Rs. } 70x$

CP of article = $\frac{70x}{100+5} \times 100$

$$= \frac{70x}{105} \times 100$$

$$= \text{Rs. } \frac{200x}{3}$$

SP when shopkeeper allow two successive discounts of 36% and 25%

$$= 100x \times \frac{(100 - 36)}{100} \times \frac{(100 - 25)}{100}$$

Then, SP = Rs. $48x$

$$\text{Now, \% loss} = \frac{\frac{200x}{3} - 48x}{\frac{200x}{3}} \times 100$$

$$= \frac{56x}{200x} \times 100$$

$$= 28\% \text{ loss}$$

S8. Ans.(a)

Sol.

Let the cost price of first horse = Rs. x

And that of second be = Rs. $(8,400 - x)$

ATQ,

$$\frac{x \times 96}{100} + \frac{(8400 - x) \times 117}{100} - 8400 = 420$$

$$\Rightarrow \frac{96x}{100} - \frac{117x}{100} = 420 + 8400 - \frac{8400 \times 117}{100}$$

$$\Rightarrow \frac{-21x}{100} = 8820 - 9828$$

$$\Rightarrow x = \frac{1008 \times 100}{21}$$

$$= \text{Rs. } 4,800$$

CP of horse sold at 17% profit = $8,400 - x$

$$= 8,400 - 4,800$$

$$= \text{Rs. } 3,600$$

S9. Ans.(b)

Sol.



Let the CP of first watch = Rs. x

Then, CP of second watch will = Rs. $(17241 - x)$

ATQ,

$$\frac{6x}{100} = (17241 - x) \times \frac{8}{100}$$

$$\Rightarrow 3x = 17241 \times 4 - 4x$$

$$\Rightarrow 7x = 68,964$$

$$\Rightarrow x = 9,852$$

CP of second watch = $17241 - 9852$

$$= \text{Rs. } 7,389$$

Difference = $9852 - 7389$

$$= \text{Rs. } 2463$$

S10. Ans(b)

Sol.

Selling price of 1 kg Rice

$$= \frac{144}{2.4} = 60 \text{ Rs.}$$

$$\text{Cost Price of One kg of Rice} = 60 \times \frac{5}{6} = 50 \text{ Rs.}$$

Selling Price of one kg pulse

$$= \frac{216}{4.8} = 45 \text{ Rs.}$$

Cost price of one kg pulse

$$= 45 \times \frac{4}{3} = \text{Rs } 60$$

$$\text{Required \%} = \frac{50}{60} \times 100 = 83\frac{1}{3}\%$$

S11. Ans (d)

Sol. The pattern is

$$1231 + 11 \times 13 = 1374$$

$$1374 + 13 \times 15 = 1569 \text{ not } 1554$$

$$1569 + 15 \times 17 = 1824$$

$$1824 + 17 \times 19 = 2147$$

$$2147 + 19 \times 21 = 2546$$

So, (E) = 2470

S12. Ans.(b)

Sol. **The given pattern is -**



5539 , 5536 , 5530 , 5506 , 5314 , 2242

$$\begin{array}{cccccc} \boxed{} & \boxed{} & \boxed{} & \boxed{} & \boxed{} & \\ -3 \times 1 & -3 \times 2 & -6 \times 4 & -24 \times 8 & -192 \times 16 & \\ (-3) & (-6) & (-24) & (-192) & (-3072) & \end{array}$$

$5536 - 6 = 5530$, not 5528.

So, (E) = $5528 - 3 - 6 - 24 - 192 = 5303$.

S13. Ans.(e)

Sol. The given pattern is -

1240 , 1492 , 1756 , 2032 , 2320 , 2620

$$\begin{array}{cccccc} \boxed{} & \boxed{} & \boxed{} & \boxed{} & \boxed{} & \\ +252 & +264 & +276 & +288 & +300 & \end{array}$$

$2032 + 288 = 2320$, not 2328

So, (E) = $2328 + 252 + 264 + 276 + 288 = 3408$.

S14. Ans.(a)

Sol. The given pattern is -

3756 , 3763 , 3749 , 3777 , 3721 , 3833

$$\begin{array}{cccccc} \boxed{} & \boxed{} & \boxed{} & \boxed{} & \boxed{} & \\ +7 & -14 & +28 & -56 & +112 & \end{array}$$

$3763 - 7 = 3756$, not 3760

So, (E) = $3760 + 7 - 14 + 28 - 56 = 3725$

S15. Ans.(c)

Sol. The given pattern is -

1256 , 1256 , 1260 , 1278 , 1326 , 1426

$$\begin{array}{cccccc} \boxed{} & \boxed{} & \boxed{} & \boxed{} & \boxed{} & \\ 1^3 - 1^2 & 2^3 - 2^2 & 3^3 - 3^2 & 4^3 - 4^2 & 5^3 - 5^2 & \end{array}$$

$1256 - (1^3 - 1^2) = 1256$, not 1258

So, (E) = $1258 + 0 + 4 + 18 + 48 = 1328$

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