

Quiz Date: 16<sup>th</sup> June 2020

**Directions (1-5):** The following questions are accompanied by two statements A and B. You have to determine which statements(s) is/are sufficient/necessary to answer the questions.

(a) Statement 'A' alone is sufficient to answer the question, but statement 'B' alone is not sufficient to answer the questions.

(b) Statement 'B' alone is sufficient to answer the question, but statement 'A' alone is not sufficient to answer the question.

(c) Both the statements taken together are necessary to answer the questions, but neither of the statements alone is sufficient to answer the question.

(d) Either statement 'A' or statement 'B' by itself is sufficient to answer the question.

(e) Statements 'A' and 'B' taken together are not sufficient to answer the question.

Q1. Find the speed of stream if boat man can cover 100 km downstream in 'x' hours?

A. Boat man can cover 20 km upstream in 'x' hours.

B. If speed of boat increases by 50% then boatman can cover 130 km downstream in 'x' hours.

Q2. Find profit % earned by retailer on selling article at Rs.480?

A. Profit % and Discount % is same for article while Marked price is Rs.600

B. On selling article at 60 Rs. more he will earn 35% profit.

Q3. Find the value of ' $2^a \times 2^{b'}$ '?

A.  $ab = 6$

B.  $(a + b)^2 = 25$

Q4. Find the total surface area of cylinder?

A. Height of cylinder is 10% more than radius of cylinder.

B. Curved surface area of cylinder is  $338.8\text{cm}^2$ .

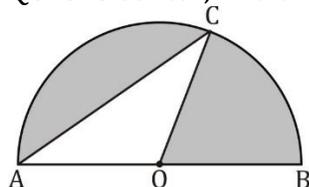
Q5. A box contains 3 Green balls, 5 blue balls and X red balls. Find the value of X?

A. Probability of choosing one ball from the box which is red is  $\frac{1}{3}$ .

B. Probability of choosing one ball from the box which is green is  $\frac{1}{4}$

**Directions (6-10):** The following questions are accompanied by two statements (A) and (B) . You have to determine which statements(s) is/are sufficient/necessary to answer the questions.

Q6. O is center, find area of shaded region



- (A) Length of AO is given.  
(B) AC is given in multiple of radius of semicircle.

- (a) Only A  
(b) Only B  
(c) Either Only A or Only B  
(d) A and B together  
(e) A and B together are not sufficient

Q7. In a box three type of balls are there, Black, Red and White. If no. of white balls is given then find out the probability of getting one white ball.

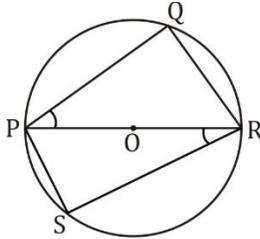
- (A) Probability of getting one Red ball is given.  
(B) Probability of getting one black ball is given.  
(a) Only A  
(b) Only B  
(c) Either Only A or Only B  
(d) A and B together  
(e) A and B together are not sufficient



Q8. What is the volume of the sphere?

- (A) Surface area of hemisphere is equal to the total surface area of the cylinder having radius and height in ratio 3 : 4.  
(B) When we cut sphere into two hemi-sphere then total surface area is equal to the area of a circle whose radius is 21 cm.  
(a) Only A  
(b) Only B  
(c) Either Only A or Only B  
(d) A and B together  
(e) A and B together are not sufficient

Q9. PR is diameter of circle. Find,  $\angle QPO - \angle SRO = ?$



- (A)  $\angle SPO = 40^\circ$   
 (B)  $\angle PQR + \angle QRO = 120^\circ$   
 (a) Only A  
 (b) Only B  
 (c) Either Only A or Only B  
 (d) A and B together  
 (e) A and B together are not sufficient

Q10. A shopkeeper gets a loss of 70 Rs. when he sold an article at 20% discount on M.P. Find cost price of Article.

- (A) % of mark up above cost price is equal to % discount given on M.P.  
 (B) when no discount is given, article sold at profit of 350 Rs.  
 (a) Only A  
 (b) Only B  
 (c) Either Only A or Only B  
 (d) A and B together  
 (e) A and B together are not sufficient

Directions (11-15): Find the wrong number in the following number series:

Q11. 31, 53, 105, 182, 280, 391

- (a) 391  
 (b) 31  
 (c) 280  
 (d) 53  
 (e) 105

Q12. 1, 1, 3, 23, 367, 11745

- (a) 11745  
 (b) None of these  
 (c) 3  
 (d) 23  
 (e) 367

Q13. 125, 127, 137, 163, 213, 296

- (a) 125  
 (b) 127  
 (c) 163  
 (d) 296  
 (e) 213

Q14. 675, 338, 170, 86, 44, 23

- (a) 23
- (b) 338
- (c) 170
- (d) 44
- (e) 675

Q15. 48, 62, 96, 224, 992, 7136

- (a) 48
- (b) 62
- (c) 224
- (d) 992
- (e) 7136

### Solutions

S1. Ans.(e)

Sol.

Let Speed of boat and stream be 'a' km/h and 'b' km/h respectively

$$\text{ATQ, } \frac{100}{x} = a + b$$

$$\text{From A } \rightarrow \frac{20}{x} = a - b$$

$$\text{From B } \rightarrow \frac{130}{x} = 1.5a + b$$

Both the statements together will not be sufficient to answer the question.



S2. Ans.(d)

Sol.

S.P = Rs.480

From A →

Marked price = Rs.600

Let discount % = x% = Profit %

ATQ,

$$600 \left[ 1 - \frac{x}{100} \right] = 480$$

$$\Rightarrow x = 20\%$$

From B →

Let Cost price = Rs. x

ATQ,

$$x \times \frac{135}{100} = 480 + 60$$

$$x = 400$$

$$\text{Profit \%} = \frac{480-400}{400} \times 100 = 20\%$$

Either statement 'A' or statement 'B' by itself is sufficient to answer the question.

S3. Ans.(b)

Sol.

$$'2^a \times 2^b' = 2^{a+b}$$

From A →  $ab=6$

From B →  $a + b = \pm 5$

Hence only 'B' is sufficient to answer the question as we got answer that is  $2^5$  or  $2^{-5}$

Hence, Statement 'B' alone is sufficient to answer the question, but statement 'A' alone is not sufficient to answer the question.

S4. Ans.(c)

Sol.

$$\text{T.S.A of cylinder} = 2\pi r(r + h)$$

From A →  $h = 1.1r$

$$\text{From B} \rightarrow 2\pi r h = 338.8 \text{ cm}^2.$$

From A and B together, T.S.A of cylinder can be found.

Both the statements taken together are necessary to answer the questions, but neither of the statements alone is sufficient to answer the question.

S5. Ans.(d)

Sol.

From A →

$$\frac{x}{8+x} = \frac{1}{3}$$

$$\Rightarrow 3x = 8 + x$$

$$\Rightarrow x = 4$$

From B →

$$\frac{3}{8+x} = \frac{1}{4}$$

$$\Rightarrow 12 = 8 + x$$

$$\Rightarrow x = 4$$

Hence, Either statement 'A' or statement 'B' by itself is sufficient to answer the question.

S6. Ans.(d)

Sol.

Given

$$AO + OC = OB$$

From A = AO → find

From B  $\rightarrow AC = x (AO)$

When 'x' multiple

From A & B together area of triangle and Area of semi circle find out.

$$\text{Required area} = \frac{\pi(AO)^2}{2} - \sqrt{S(S - AO) \cdot (S - OC) \cdot (S - AC)}$$

$$S = \frac{AO + OC + AC}{3}$$

$\therefore$  A & B together sufficient to answer the question

S7. Ans.(d)

Sol.

Given no. of white ball

Let  $\rightarrow a$

From A let probability  $\rightarrow \frac{x}{y}$

Let no. of red ball  $\rightarrow px$ , total balls  $\rightarrow py$

From B  $\rightarrow$  Let probability  $= \frac{s}{t}$

Let no. of black ball =  $qs$ , total balls =  $qt$

From A & B

$$px + a + qs = qt = py$$

we know the values of  $x, y, s, t$  and  $a$  so we can find the value of  $p$  and  $q$

So probability of white ball found  $= \frac{a}{qt}$  or  $\frac{a}{py}$

$\therefore$  A & B together sufficient to answer the question

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S8. Ans.(b)

Sol.

Only B is sufficient to answer the question

When we cut sphere into hemisphere total surface area of two hemisphere

Total surface area of two hemisphere

$$3\pi r^2 + 3\pi r^2 = \pi \times 21 \times 21$$

$r =$  find out

So, volume of sphere can be find out.

S9. Ans.(d)

Sol.

Given

$$\angle PQR = \angle PSR = 90^\circ \text{ \{Angle of diameter\}}$$

$$A \rightarrow \angle SRO = 180^\circ - 90^\circ (\angle PSR) - 40^\circ (\angle SPO)$$

$$\angle SRO = 50^\circ$$

$$B \rightarrow \angle PQR + \angle QRO = 120^\circ$$

$$\angle QRO = 120^\circ - 90 = 30^\circ$$

$$\angle QPO = 60^\circ$$

From B & A together, required difference can be find out.

S10. Ans.(c)

Sol.

From A  $\rightarrow$

Discount % = 20% = Markup%

If cost price is  $100x$  then Markup price  $120x$  and selling price is  $\rightarrow 96x$

So ATQ,

$$100x - 96x = 70$$

$$C.P = 100x = \frac{70}{4x} \times 100x = 1750$$

From B  $\rightarrow$

Let mark up price is  $\rightarrow 100x$

Then selling price is  $\rightarrow 80x$

ATQ,

$$100x - 80x = 350 + 70$$

$$20x = 420$$

$$100x = 2100$$

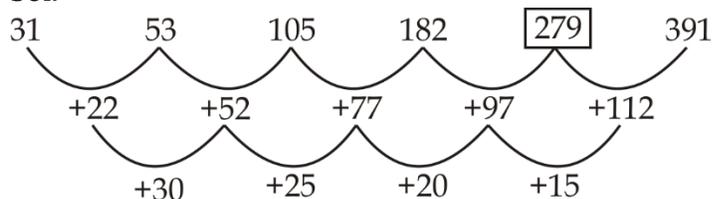
$$80x = 1680$$

$$C.P. \rightarrow 1680 + 70 = 1750$$

So Either A or B alone required.

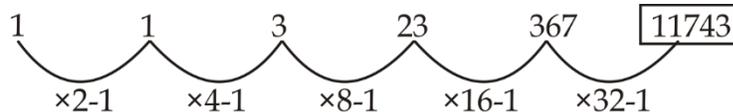
S11. Ans.(c)

Sol.



S12. Ans.(a)

Sol.



S13. Ans.(d)

Sol.

$$\begin{array}{cccccc}
 125 & 127 & 137 & 163 & 213 & \boxed{295} \\
 \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\
 +1^2+1 & +3^2+1 & +5^2+1 & +7^2+1 & +9^2+1 & 
 \end{array}$$

S14. Ans.(e)

Sol.

$$\begin{array}{cccccc}
 \boxed{674} & 338 & 170 & 86 & 44 & 23 \\
 \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\
 \div 2+1 & 
 \end{array}$$

S15. Ans.(b)

Sol.

$$\begin{array}{cccccc}
 48 & \boxed{64} & 96 & 224 & 992 & 7136 \\
 \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} \\
 +16 & +32 & +128 & +768 & +6144 & \\
 \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \\
 \times 2 & \times 4 & \times 6 & \times 8 & & 
 \end{array}$$

