



Bipin Nambiar
(SBI PO 2018)



Shiraz Khan
(SBI Clerk 2018)



Kuldeep Yadav
(SBI PO 2018)



Rajat Saxena
(IBPS Clerk 2018)



Anupam Tyagi
(IBPS PO 2018)

FRIENDS!
WE USED **TESTZONE**
AND CRACKED BANK EXAMS

बैंक परीक्षाओं के लिए निश्चित
रूप से सर्वश्रेष्ठ मॉक
टेस्ट सीरीज

IT'S YOUR TURN NOW
TAKE A **FREE** MOCK TEST



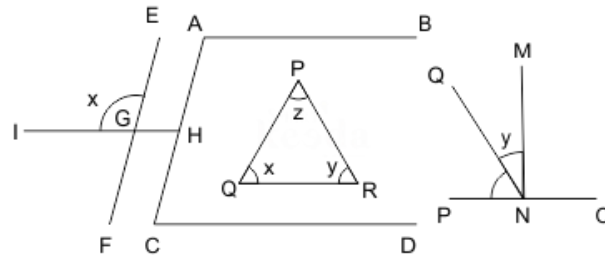
Smartkeeda
The Question Bank

Mixed Math Questions for CGL Tier-1, CGL Tier-II, SSC 10+2

SSC Math's Quiz 10

Directions: Read the following questions carefully and choose the right answer.

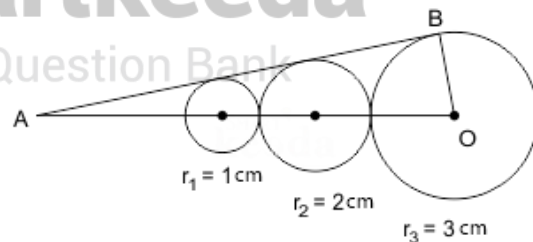
1. If $AB \parallel CD \parallel IH$ and $AC \parallel EF$, $\angle BAC = 80^\circ$ and MN is perpendicular to PO , then find x, y, z using following figure



- A. $x = 80^\circ, y = 45^\circ, z = 55^\circ$
- B. $x = 80^\circ, y = 55^\circ, z = 45^\circ$
- C. $x = 80^\circ, y = 90^\circ, z = 10^\circ$
- D. $x = 80^\circ, y = 10^\circ, z = 90^\circ$

2. In the figure below, find the value of AB .

- A. $\sqrt{140}$
- B. $\sqrt{112}$
- C. $\sqrt{145}$
- D. $\sqrt{135}$



3. For what value of k , does the equation $7x^2 + 14x + k$ become perfect square?

- A. 7
- B. 8
- C. 6
- D. 9

4. A cube of side 11 cm is melted and converted into a solid cylinder. It is found that the height of the cylinder so formed is 7 times the length of the rectangle whose width is 1.5 cm and perimeter 4 cm. Find the radius of the cylinder?

- A. 3.5 cm
- B. 11 cm
- C. 7 cm
- D. 10 cm

5. The minimum value of $16 \tan^2 \theta + 25 \cot^2 \theta$ is

A. 5

B. 4

C. 30

D. 40

6. The average of six numbers is 35. If each of the first three numbers increased by 4 and each of the remaining three is decreased by 8, then what is the new average?

A. 31

B. 23

C. 32

D. 33

7. An article is sold at a profit of Rs. 30 which is 5% of the cost price if the cost price is increased by 20% and the article is now to be sold at the profit of 15% then find the new selling price?

A. Rs. 756

B. Rs. 802

C. Rs. 812

D. Rs. 828



Smartkeeda
The Question Bank

8. The filling efficiency of pipe A is 4 times faster than second pipe B. If B takes 30 minutes to fill a tank, then determine the time taken by them to fill a tank together.

A. 8 min

B. 5 min

C. 7 min

D. 6 min

9. A, B and C invested in a business and their investments are in the ratio 2 : 3 : 4. If A gets 20% of the total profit as salary and rest is divided according to investment, then find the share of A, if B gets Rs. 3600.

A. 5300

B. 5250

C. 5200

D. 5100

10. if $7 \sin^2 \theta + 3 \cos^3 \theta = 4$, ($0^\circ < \theta < 90^\circ$). then value of θ is

A. $\pi/2$

B. $\pi/3$

C. $\pi/6$

D. $\pi/4$



SSC CGL 2019

FREE MOCK TEST [Attempt Now](#)

- ✓ EXCELLENT CONTENT
- ✓ BRILLIANT TEST ANALYSIS
- ✓ UNMATCHED EXPLANATION

**For more PDFs join
us on Telegram**

[CLICK HERE](#)



SBI | RBI | IBPS | RRB | SSC | NIACL | EPFO | UGC NET | LIC | RAILWAY | CLAT | RJS

Correct Answer:

1	2	3	4	5	6	7	8	9	10
D	B	A	B	D	D	D	B	D	C

Explanation:

1. As $AB \parallel IH$,

$$\therefore \angle A = \angle H = 80^\circ \quad [\text{alternate interior angles of parallel sides are equal}]$$

Also, $AC \parallel EF$,

$$\therefore \angle H = \angle G = x = 80^\circ \quad [\text{adjacent angles of parallel sides are equal}]$$

Now, we have, $MN \perp PO$

$$\therefore 90 + x + y = 180 \quad [\text{linear pair axiom}]$$

$$y = 180 - 90 - 80$$

$$y = 10^\circ$$

In $\triangle PQR$,

$$x + y + z = 180^\circ$$

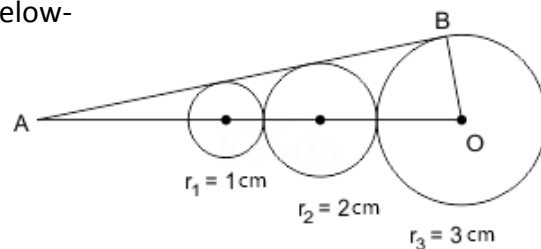
$$80 + 10 + z = 180^\circ$$

$$z = 180 - 90$$

$$z = 90^\circ$$

Hence, option D is correct.

2. We can redraw the given figure as below-



As angle A is common to both $\triangle ADE$ and $\triangle ACF$ and also $\angle C = \angle D = 90^\circ$

Therefore, $\triangle ADE \sim \triangle ACF$

Therefore, ratio of sides will be same as given below-

$$\frac{x+1}{x+4} = \frac{1}{2}$$

$$2x+2 = x+4$$

$$\text{Or, } x = 2 \text{ cm}$$

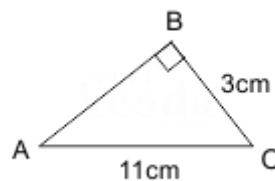
$$\therefore AO = 2 + 1 + 1 + 2 + 2 + 3 = 11 \text{ cm}$$

Consider following right-angled triangle,

$$AB^2 = 11^2 - 3^2$$

$$AB^2 = 121 - 9$$

$$AB = \sqrt{112} \text{ cm}$$



Hence, option B is correct.

3. Here, $a = 7, b = 14, c = k$

For perfect square, we have

$$b^2 - 4ac = 0$$

$$\Rightarrow (14)^2 - 4 \times 7 \times k = 0$$

$$\Rightarrow 196 = 28k$$

$$\text{or, } k = 7$$

Hence, option A is correct.

4. Volume of cube = $(11)^3$

We have, volume of cylinder = volume of cube

$$\Rightarrow \pi r^2 h = 11 \times 11 \times 11$$

$$\frac{22}{1} \times r^2 h = 11 \times 11 \times 11$$

$$r^2 h = \frac{121 \times 7}{2} \text{ cm}^3 \text{ eq. (1)}$$

Now,

$$2(L + B) = 4$$

$$L + B = 2$$

$$L = 2 - 1.5$$

$$L = 0.5 = 0.5 = \frac{1}{2} \text{ cm}$$

$$\text{Therefore, } h = 7 \times \frac{1}{2} = \frac{7}{2}$$

Now eq(1) becomes,

$$r^2 \times \frac{7}{2} = 121 \times \frac{7}{2}$$

$$r^2 = 121$$

$$r = 11 \text{ cm}$$

Hence, option B is correct.

5. Comparing $16 \tan^2 \theta + 25 \cot^2 \theta$ with $a \tan^2 \theta + b \cot^2 \theta$, we get

$$a = 16$$

$$\text{and, } b = 25$$

We know that the minimum value of such equation = $2\sqrt{ab}$

$$\text{Thus the minimum value} = 2\sqrt{16 \times 25}$$

$$\Rightarrow 2 \times 4 \times 5 = 40$$

Hence, option D is correct.

6. Sum of the numbers = $6 \times 35 = 210$

$$\text{Change in total after the increase and decrease in values} = (3 \times 4) - (8 \times 3) = -12$$

$$\text{New Average} = \frac{210 - 12}{6} = 33$$

Hence, option D is correct.

7. Here the profit received after selling the article is Rs. 30 which is 5% of the cost price.

So, the cost price of the article = Rs. 600

Now, the cost price is increased by 20%.

$$\text{So, the new cost price} = \frac{120}{100} \times 600 = \text{Rs. 720}$$

Here new profit on the article is 15%.

$$\text{Thus, new selling price} = \frac{115}{100} \times 720 = \text{Rs. 828}$$

Hence, the new selling price is Rs. 828

Therefore, option D is correct.

8. If pipe A is 4 times faster than pipe B, it infers that efficiency of pipe A must be 5 times that of B.

We know the ratio of efficiency is inversely proportional to time.

$$\text{Therefore, } \frac{\text{time taken by A}}{\text{time taken by B}} = \frac{1}{5}$$

$$\text{time taken by A} = 30 \times \frac{1}{5} = 6 \text{ min.}$$

$$\text{A's 1 min work} = \frac{30}{6} = 5 \text{ unit/min.}$$

$$\text{B's 1 min work} = \frac{30}{30} = 1 \text{ unit/min.}$$

A and B together do = 5 + 1 = 6 unit/min

Therefore, time taken by them $30/6 = 5$ min

Hence, option B is correct.

9. Let the total profit be Rs. x

$$\text{Therefore, B's share} = 80\% \text{ of } \frac{3}{9}x$$

$$\text{or, } \frac{4}{5} \times \frac{3}{9} x = 3600$$

$$x = 45 \times 300$$

$$X = 13500$$

$$\text{Thus A's share} = 20\% \text{ of } 13500 + 80\% \text{ of } \frac{2}{9} \times 13500$$

$$= \frac{1}{5} \times 13500 + \frac{4}{5} \times \frac{2}{9} \times 13500$$

$$= 2700 + 2400 = \text{Rs.}5100$$

Hence, option D is correct.

10. $7 \sin^2 \theta + 3 \cos^2 \theta = 4$

$$4 \sin^2 \theta + 3 (\sin^2 \theta + \cos^2 \theta) = 4$$

$$4 \sin^2 \theta + 3 \sin^2 \theta + 3 \cos^2 \theta = 4$$

$$\sin^2 \theta = \frac{1}{4}$$

$$\sin \theta = \frac{1}{2}$$

$$\theta = \frac{\pi}{6}$$

Hence, option C is correct.

**For more PDFs join
us on Telegram**

CLICK HERE



SBI | RBI | IBPS | RRB | SSC | NIACL | EPFO | UGC NET | LIC | RAILWAY | CLAT | RJS



SmartKeeda

The Question Bank

Presents

TestZone

India's least priced Test Series platform



ALL BANK EXAMS

2019-20 Test Series

@ Just

₹ 499/-

300+ Full Length Tests

- Brilliant Test Analysis
- Excellent Content
- Unmatched Explanations

JOIN NOW