



MATHS

BOOKS - PEARSON IIT JEE FOUNDATION

MOCK TEST

Questions

1. The total surface area of a cuboidal box is given by: $A = 2(lb + bh + lh)$. The following are the steps involved in marketing b as the subject of

the formula. Arrange them in sequential order.

$$(A) \frac{A}{2} - lh = lb + bh$$

$$(B) A = 2(lb + bh + lh) \Rightarrow \frac{A}{2} = lb + bh + lh$$

$$(C) b = \frac{A - 2lh}{1(l + h)}$$

$$(D) b(l + h) = \frac{A - 2lh}{2}$$

A. BDAC

B. DBAC

C. BCAD

D. BADC

Answer: D



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2. If $S = \frac{(100 + g)}{100}C$, then $g = \dots\dots\dots$

A. $\frac{100S - C}{100}$

B. $\frac{100(S - 1)}{C}$

C. $\frac{100(S - C)}{C}$

D. $\frac{100(S - C)}{100}$

Answer: C



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3. The following are the steps involved in solving the equation $\frac{8x + 7}{15} + \frac{3x + 7}{10} = 2$. Arrange them in sequential order.

(A) The LCM of 15 and 10 is 30.

(B) $25x + 35 = 60$

(C) Given $\frac{8x + 7}{15} + \frac{3x + 7}{10} = 2$

(D) $\frac{2(8x + 7) + 3(3x + 7)}{30} = 2$

(E) $x = 1$

A. CEADB

B. CBADE

C. CADBE

D. CDAEB

Answer: C



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4. Solve for x : $\frac{3}{x} + \frac{5}{x} = 2$.

A. 4

B. 3

C. 5

D. 2

Answer: A



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5. In $\triangle ABC$, if $\angle A = 70^\circ$, $\angle B = 80^\circ$ and $\angle C = 30^\circ$, then which of the following is the correct relation among the sides of the triangle?

$$AB < BC < CA$$

$$AB > BC > CA$$

$$BC < AB < CA$$

$$AC < AB < BC$$

A. $AB < BC < CA$

B. $AB > BC > CA$

C. $BC < AB < CA$

D. $AC < AB < BC$

Answer: A



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6. The angles of quadrilateral are $x - 20^\circ$, $2x^\circ$, $x + 20^\circ$, and $x + 30^\circ$. Find the smallest angle of the quadrilateral.

A. 66°

B. 56°

C. 36°

D. 46°

Answer: D



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7. $\frac{a^m}{a^n} = a^{m/n} (a \neq 0)$

A. CABD

B. ACDB

C. ACBD

D. CADB

Answer: D



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8. If $10,800 = 2^a \times 3^b \times 5^c$, then what is the value of $a^c + b^a$?

A. 97

B. 81

C. 102

D. 107

Answer: A



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9. The difference in the areas of two concentric circles is 66 cm^2 and the radius of the outer circle is 11 cm. What is the radius of the inner circle?

A. 8 cm

B. 9 cm

C. 10 cm

D. 7 cm

Answer: C



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10. Match the statements of Column A with values of Column B

Column A	Column B
Cuboid of dimensions 6 cm × 5 cm × 4 cm	
(i) Total length of the edges (cm)	(A) 60
(ii) Total surface area (cm ²)	(B) 88
(iii) Volume (cm ³)	(C) 120
(iv) Lateral surface area (cm ²)	(D) 148

A.

(i) – (A), (ii) – (B), (iii) – (C), (iv) – (D)

B.

(i) – (C), (ii) – (D), (iii) – (A), (iv) – (B)

C.

(i) – (B), (ii) – (D), (iii) – (C), (iv) – (A)

D.

(i) – (A), (ii) – (D), (iii) – (C), (iv) – (B)

Answer: D



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11. The following are the steps involved in preparing a frequency table to analyse 50 families based on the number of children of those families. Arrange them in sequential order.

(A) Record tally marks for the entire data.

(B) Count the tally marks and write the number under frequency column.

(C) Draw a table with columns namely (1). number of children, (2). Tally marks, and (3). number of families (frequency).

(D) Select a family and write tally mark against the corresponding number of children.

A. CBDA

B. DCAB

C. CDAB

D. CBAD

Answer: C



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12. In pie chart, the central angle of a component, which is 15% of the total value of all the components, is

A. 42°

B. 54°

C. 72°

D. 48°

Answer: B



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13. The LCM and the HCF of two numbers are 240 and 12, respectively. If one of the numbers is 48, then find the other number and arrange the

following step in sequential order.

$$48 \times x = 240 \times 12 \Rightarrow x = \frac{240 \times 12}{48}$$

(B) The product of two number =(their LCM) \times
(their HCF)

(C) Let the other number be x .

$$(D) \Rightarrow x = 5 \times 12 = 60$$

A. CABD

B. CBADE

C. BACD

D. CBDA

Answer: B





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14. Find the least number greater than 10 which when divided by 15, 20 and 25 leaves remainder 10 in each case.

A. 290

B. 300

C. 310

D. 320

Answer: C



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15. The speed of a boat in still water is 20 km/h and the speed of the stream is 5 km/h. Find the total taken to travel a distance of 30 km upstream and 50 km downstream.

(A) Find the speed of the boat downstream.

(B) Recall the formula: $\text{Time} = \frac{\text{distance}}{\text{speed}}$

(C) Find the speed of the boat upstream.

(D) Required time $= \frac{30}{15} + \frac{50}{25} = 2 + 2 = 4h$

A. ABCD

B. DABC

C. CADBE

D. ACBD

Answer: D



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16. If 20 % of $\frac{x}{4}$ is $\frac{9}{10}$, then find the value of x.

A. 18

B. 20

C. 21

D. 25

Answer: A



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17. A alone can do a piece of work in 12 days and B can do the same work in 15 days. If they complete the work together and receive a total amount of Rs. 1800, then find the share of B.

A. RS.700

B. 800

C. 900

D. 1000

Answer: B



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18. If a train 200 m long takes 20 s to cross a pole, then how much time does it take to cross a bridge of length 300 m (in seconds)?

A. 30

B. 40

C. 50

D. 60

Answer: C



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19. Suresh can complete a work in 40 days and Rajesh can complete the same work in 60 days. Find the sequential order of step, in how many days will they complete the work by working together?

(A) Rajesh and Suresh one day's work are $\frac{1}{60}$ and

$\frac{1}{40}$, respectively.

(B) One day's work of both is $\frac{1}{40} + \frac{1}{60}$.

(C) Both can complete the work in 24 days.

(D) One day's work of both = $\frac{1}{24}$

A. ACDB

B. BCAD

C. CDBA

D. ABDC

Answer: D



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20. $\frac{1.69 \times 1.69 - 0.23 \times 0.23}{1.69 - 0.23} = \dots\dots\dots$

A. 1.46

B. 14.6

C. 1.92

D. 19.2

Answer: C



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21. A 300 m long train crosses a pole in 15s. What is the speed of the train(in kmph)?



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22. Pavan is thrice as efficient as koushik. Pavan alone takes 30 days to complete a work. In how many days can koushik finish the same work?



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23. What is the mean of the first 5 prime numbers ?



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24. Find the median of the observation 17,14,13,12,18,19,16,14,12,19,16,25,and 15.



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25. If $x = -3$, then what is the value of $x^4 - x^3 - x^2 + 3$?



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