MATHS

BOOKS - S CHAND IIT JEE FOUNDATION

LINEAR EQUATIONS IN ONE VARIABLE (REVISION)

Question Bank

1. The solution of $\dfrac{2x+3}{2x-1} = \dfrac{3x-1}{3x+1}$ is

A. $\dfrac{1}{8}$

B. $\dfrac{-1}{8}$

C. $\dfrac{8}{3}$

D. $\dfrac{-8}{3}$

Answer: B

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2. If $\dfrac{x+3}{2} + 9x = 5(x-3) + \dfrac{x+23}{5}$ then

what is the value of x?

A. 7

B. 8

C. 10

D. 12

Answer: A

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3. The solution for $\dfrac{2}{x+3} - \dfrac{4}{x-3} = \dfrac{-6}{x+3}$ is:

A. 9

B. -1

C. -3

D. 3

Answer: A

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4. If

$$(3x + 4)^2 + (3x - 2)^2 = (6x + 5)(3x - 2) + 12$$

, then the value of x is:

A. 2

B. 1

C. -3

D. -2

Answer: D

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5. Given $\dfrac{x^2 - 5x + 6}{x^2 - 7x + 12} = \dfrac{x^2 - x - 6}{x^2 + 7x + 10}$ then

$x =$

A. 2.4

B. -2.0

C. 2.2

D. 2.3

Answer: C

6. A number consists of two digits. The digit in the ten's place exceeds the digit in the unit's

place by 4. The sum of the digits is $\frac{1}{7}$ of the number. The number is :

A. 27

B. 72

C. 48

D. 84

Answer: D

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7. The sum of the numerator and the denominator of a fraction is 11. If 1 is added to the numerator and 2 is subtracted from the denominator it becomes $\dfrac{2}{5}$. The fraction is :

A. $\dfrac{5}{6}$

B. $\dfrac{3}{8}$

C. $\dfrac{4}{7}$

D. $\dfrac{1}{10}$

Answer: B

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8. If Dennis is $\dfrac{1}{3}$ rd the age of his father Keith now, and was $\dfrac{1}{4}$ th age of his father 5 years ago, then how old will his father Keith be 5 years from now?

A. 20 years

B. 45 years

C. 40 years

D. 50 years

Answer: D

9. A daily wage worker was paid 1700 during a period of 30 days. During this period he was absent for 4 days and was fined Rs. 15 per day for absence. He was paid the full salary only for 18 days as he came late on the other days. Those who came late were given only half the salary for that day. What was the total salary

paid per month to a worker who came on time

every day and was never absent ?

A. Rs. 2400

B. Rs. 3000

C. Rs. 2700

D. Rs. 2250

Answer: A

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10. A person spends $\frac{1}{3}$ of the money with him on clothes, $\frac{1}{5}$ of the remaining on food and $\frac{1}{4}$ of the remaining on travel. Now he is left with 100. How much did he have with him in the beginning?

A. Rs.200

B. Rs.250

C. Rs.300

D. Rs.450

Answer: B

11. In a three-digit number, the digit in the unit's place is four times the digit in the hundred's place. If the digit in the unit's place and the ten's place are inter changed, the new number so formed is 18 more than the original number. If the digit in the hundred's place is one-third of the digit in the ten's place, then what is 25% of the original number?

A. 67

B. 84

C. 73

D. 64

Answer: A

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12. Tanya's grandfather was 8 times older to her 16 years ago. He would be 3 times of her age 8 years from now. Eight years ago, what

was the ratio of Tanya's age to that of her grandfather?

A. $1 : 2$

B. $1 : 5$

C. $13 : 18$

D. $11 : 53$

Answer: D

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13. If a scooterist drives at the rate of 25 km per hour, he reaches his destination 7 minutes late, and if he drives at the rate of 30 km per hour, he reaches his destination 5 minutes earlier. How far is his destination ?

    A. 20 km

    B. 25 km

    C. 30 km

    D. 32 km

Answer: C

14. The length of a rectangle is 3 times it breadth. If the length is decreased by 3 cm and the breadth increased by 5 cm, the area of the rectangle is increased by $57cm^2$. The perimeter of the rectangle is :

A. 18 cm

B. 48 cm

C. 24 cm

D. 20 cm

Answer: B

15. In an examination, a candidate attempts 90% of the total questions. Out of these 70% of his answers are correct. Each question carries 3 marks for the correct answer and (-1) mark for the wrong answer. If the marks

secured by the candidate is 243, what is the total number of questions ?

A. 110

B. 140

C. 150

D. 200

Answer: C

Self Assessment Sheet

1. The solution of $\dfrac{x+a}{x-2a} = \dfrac{x+3a}{x-4a}$ is

A. $x = a$

B. $x = -a/2$

C. $x = a/2$

D. $x = -a$

Answer: C

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2. Solve : $\dfrac{t+2}{3} + \dfrac{1}{t+1} = \dfrac{t-3}{2} - \dfrac{t-1}{6}$

A. $t = 1$

B. $t = -2$

C. $t = 2$

D. $t = 0$

Answer: D

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3. The digits of a three-figure number are consecutive odd numbers. The number is 51 less than thirty times the sum of its digits. What is the number?

A. 975

B. 579

C. 759

D. 597

Answer: B

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4. A wire is bent so as to form four sides of a square. A length of 4 cm is cut from it and the remainder is again bent to form the four sides of a square. If the difference in areas of the squares is $25cm^2$, how long was the wire before being cut ?

    A. 52 cm

    B. 48 cm

    C. 12 cm

D. 13 cm

Answer: A

5. The distance between two towns is 20 km less by road than by rail. A train takes three hours for the journey, a car four hours. If the average speed of the car is 15 km/hr less than that of the train, what is the average speeds of the car ?

A. 40 km/hr

B. 35 km/hr

C. 25 km/hr

D. 50 km/hr

Answer: C

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6. A man's age is now four times that of his

son and it is also three times that of his

daughter. In six years time it will be three

times that of his son. How old was he when his

daughter was born ?

A. 48 years

B. 26 years

C. 32 years

D. 40 years

Answer: C

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7. A man saves the same amount each year and now he has Rs. 1200 saved. In four years' time he will have three times as much saved as he had four years ago. How much does he same each year ?

A. Rs. 120

B. Rs.100

C. Rs. 150

D. Rs. 200

Answer: B

8. A square carpet when placed in a room leaves a strip 1 m wide uncarpeted along one pair of opposite walls and a strip 2 m wide along the other two walls. If the area uncarpeted is 62 sq m, what is the length of the carpet ?

A. 10 m

B. 20 m

C. 8 m

D. 7 m

Answer: B

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9. ABCD is a rectangle, sides 36 cm and 90 cm.

P is a point on BC which is one of the longer

sides such that $PA = 2PD$. The length of PB

is

A. 80 cm

B. 18 cm

C. 72 cm

D. 64 cm

Answer: C

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10. A line is divided into three parts. The first part is two-thirds the length of the second part, the third part is $\frac{1}{2}$cm shorter than the

first part, and 2 cm shorter than the second part. Find the length of the line?

A. 12 cm

B. 9 cm

C. 10 cm

D. 8 cm

Answer: B

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