MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

LINEAR EQUATIONS IN ONE VARIABLE

Others

1. Write the L.H.S and the R.H.S of each of the following equations:

(i)$x - 3 = 5$

(ii) $3x = 15 - 2x$

2. Write the L.H.S and the R.H.S of each of the following equations:

(i)$3x = 21$

(ii) $3x - 4y = 9 + x$

3. Verify that $x = 3$ is the solution of the equation $2x - 3 = 3$.

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4. Verify that $y = 9$ is the solution of the equation $\dfrac{y}{3} + 5 = 8$.

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5. Solve the following equations by the trial-and-error method:

(i) $x + 7 = 10$

(ii) $x - 15 = 20$

6. Solve the following equations by the trial-and-error method:

(i) $5x = 30$

(ii) $\dfrac{x}{8} = 9$

7. Solve the following equations by the trial-and-error method:

(i)$3x + 4 = 5x - 4$

(ii) $\dfrac{x}{3} + 8 = 11$

8. Verify by substitution that: $x = 4$ is the root of $3x - 5 = 7$ and

$x = 3$ is the root of $5 + 3x = 14$

9. Verify by substitution that: $x = 2$ is the root

of $3x - 2 = 8x - 12$

and $x = 4$ is the root of $\dfrac{3x}{2} = 6$

10. Show that $y = 2$ is the root of

$y - 3 = 2y - 5$ and

$x = 8$ is the root of $\dfrac{1}{2}x + 7 = 11$

11. Solve each of the following equations by trial-and-error method:

(i) $x + 3 = 12$

(ii) $x - 7 = 10$

12. Solve each of the following equations by trial-and-error method:

(i)$4x = 28$

(ii) $\dfrac{x}{2} + 7 = 11$

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13. Solve each of the following equations by trial-and-error method:

(i)$2x + 4 = 3x$

(ii) $\dfrac{x}{4} = 12$

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14. Solve each of the following equations by trial-and-error method:

(i) $\dfrac{15}{x} = 3$

(ii) $\dfrac{x}{18} = 20$

15. Solve the equation $x - 3 = 5$ and check the result.

A. 5

B. 2

C. 3

D. 8

Answer: D

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16. Solve the equation $x - 7 = -2$ and check the result.

A. 5

B. 2

C. 3

D. 8

Answer: A

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17. Solve the equation $x + 7 = 5$

A. -2

B. 12

C. 1

D. 2

Answer: A

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18. Solve the equation $x + 4 = -2$ and check

the result.

A. 6

B. -6

C. 12

D. 0

Answer: B

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19. Solve the equation $\dfrac{y}{12} = 48$ and check the result.

A. 456

B. 356

C. 576

D. 657

Answer: C

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20. Solve the equation $15x = 21$ and verify the result.

A. $\dfrac{7}{8}$

B. $\dfrac{7}{6}$

C. $\dfrac{7}{5}$

D. $\dfrac{7}{3}$

Answer: C

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21. Solve the equation $\dfrac{2}{3x} = 18$ and check the result.

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22. Solve the equation $3x + 2 = 11$ and check the result.

A. 3

B. 6

C. 4

D. 5

Answer: A

23. Solve the equation $2x - \dfrac{1}{2} = 3$ and check the result.

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24. Solve the equation $3(x + 6) = 21$ and check the result.

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25. Solve the equation

$16(3x - 5) - 10(4x - 8) = 40$ and verify the

result.

26. Solve each of the following equation and check your answers:

1.$x - 3 = 5$

2. $x + 9 = 13$

27. Solve each of the following equation and check your answers:

1. $x - \dfrac{3}{5} = \dfrac{7}{5}$

2. $3x = 0$

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28. Solve each of the following equation and check your answers:

1. $\dfrac{x}{2} = 0$

2. $x - \dfrac{1}{3} = \dfrac{2}{3}$

29. Solve each of the following equation and check your answers:

1. $x + \dfrac{1}{2} = \dfrac{7}{2}$

2. $10 - y = 6$

30. Solve each of the following equation and check your answers:

1. $7 + 4y = -5$

2. $\dfrac{4}{5} - x = \dfrac{3}{5}$

31. Solve each of the following equation and check your answers:

(i) $2y - \dfrac{1}{2} = -\dfrac{1}{3}$

(ii) $14 = \dfrac{7x}{10} - 8$

32. Solve each of the following equation and check your answers:

1. $3(x + 2) = 15$

2. $\dfrac{x}{4} = \dfrac{7}{8}$

33. Solve each of the following equation and check your answers:

1. $\dfrac{1}{3} - 2x = 0$

2. $3(x + 6) = 24$

34. Solve each of the following equation and check your answers:

(i)$3(x + 2) - 2(x - 1) = 7$

(ii)$8(2x - 5) - 6(3x - 7) = 1$

35. Solve each of the following equation and check your answers:

(i)$6(1 - 4x) + 7(2 + 5x) = 53$

(ii)$5(2 - 3x) - 17(2x - 5) = 16$

36. Solve each of the following equation and check your answers:

1.$\dfrac{x - 3}{5} - 2 = -1$

2. $5(x - 2) + 3(x + 1) = 25$

37. Solve: $3(x - 1) = 2x - 11$ and check the result.

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38. Solve: $3(x + 3) - 2(x - 1) = 5(x - 5)$ and check the result.

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39. Solve: $\dfrac{x}{2} - 1 = \dfrac{x}{3} + 4$

A. $x = 30$

B. $x = 5$

C. $x = 1$

D. $x = 4$

Answer: A

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40. Solve: $\dfrac{2x - 1}{3} + 1 = \dfrac{x - 2}{3} + 2$ and check the result.

41. Solve: $\dfrac{3x}{10} + \dfrac{2x}{5} = \dfrac{7x}{25} + \dfrac{29}{25}$

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42. Solve: $\dfrac{12}{7}(x - 5) = 24 + 8x$

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43. Solve: $\dfrac{y - 8}{3} = \dfrac{7 - 4y}{7}$

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44. Solve: $\dfrac{x-6}{4} - \dfrac{x-4}{6} = 1 - \dfrac{x}{10}$

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45. Solve:

$$\dfrac{3}{4}(7x - 1) - \left(2x - \dfrac{1-x}{2}\right) = x + \dfrac{3}{2}$$

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46. Solve: $0.3x + 0.4 = 0.28x + 1.16$

47. Solve each of the following equation. Also, verify the result in each case.

$1. 6x + 5 = 2x + 17$

$2. 2(5x - 3) - 3(2x - 1) = 9$

48. Solve each of the following equation. Also, verify the result in each case.

1. $\dfrac{x}{2} = \dfrac{x}{3} + 1$

2. $\dfrac{x}{2} + \dfrac{3}{2} = \dfrac{2x}{5} - 1$

49. Solve each of the following equation. Also, verify the result in each case.

1. $\dfrac{3}{4}(x - 1) = x - 3$

2. $3(x - 3) = 5(2x + 1)$

50. Solve each of the following equation. Also, verify the result in each case.

$1. 3x - 2(2x - 5) = 2(x + 3) - 8$

$2. x - \dfrac{x}{4} - \dfrac{1}{2} = 3 + \dfrac{x}{4}$

51. Solve each of the following equation. Also, verify the result in each case.

1. $\dfrac{6x-2}{9} + \dfrac{3x+5}{18} = \dfrac{1}{3}$

2. $m - \dfrac{m-1}{2} = 1 - \dfrac{m-2}{3}$

52. Solve each of the following equation. Also,

verify the result in each case.

1. $\dfrac{(5x-1)}{3} - \dfrac{(2x-2)}{3} = 1$

2. $0.\,6x + \dfrac{4}{5} = 0.\,28x + 1.\,16$

3. $0.\,5x + \dfrac{x}{3} = 0.\,25x + 7$

53. 5 added to a number gives 9. Find the number.

A. 4

B. 5

C. 6

D. 7

Answer: A

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54. If 7 is subtracted from five times a number, the result if 63. Find the number

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55. What is the number which when multiplied by 20 gives the product 60?

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56. Find the number which when divided by 9 gives 4.

57. The sum of two consecutive numbers is 53.

Find the numbers.

    A. 27 and 28

    B. 28 and 29

    C. 32 and 33

    D. 26 and 27

Answer: D

58. The sum of two consecutive even numbers is 86. Find the numbers.

59. The sum of two consecutive odd numbers is 68. Find the numbers.

A. 33, 37

B. 33,35

C. 33, 34

D. 34,35

Answer: B

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60. Find two numbers such that one of them exceeds the other by 9 and their sum is 81.

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61. Find a number which when multiplied by 5 is increased by 80.

    A. $x = 20$

    B. $x = 80$

    C. $x = 5$

    D. $x = 10$

Answer: A

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62. The sum of ages of father and his son is 75 years. If the age of the son is 25 years, find the age of the father.

63. Rahim's father is three times as old as Rahim. If sum of their ages is 56 years, find their ages.

A. Rahim's age = 14yrs

His father's age = 40 yrs

B. Rahim's age = 12yrs

   His father's age = 42 yrs

C. Rahim's age = 14yrs

   His father's age = 42 yrs

D. Rahim's age = 12yrs

   His father's age = 40 yrs

Answer: C

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64. Mona's father is thrice as old as Mona. After 12 years he will be just twice his daughter. Find their present ages.

65. A sum of $Rs.\ 8400$ is made up of $50, 20, 10$ and 5 rupee notes. The number of 10 rupee notes is five times the number of 5 rupee notes, four times the number of 20 rupees notes and ten times the number of 50 rupees

notes. What is the number of notes in each denominator?

66. Ravish owns a plot of rectangular shape. He has fenced it with a wire of length $750m$. The length of the plot exceeds the breadth by $5m$. Find the length and breadth of the plot.

67. Sara's mother is three times as old as Sara and four times as old as Sara's sister, Ann is three years younger than Sara. How old are Sara, Ann and their mother?

68. If 5 is subtracted from three times a number, the result is 16. Form the equation

    A. $3x - 3 = 16$

    B. $5x - 5 = 16$

C. $3x - 5 = 16$

D. $5x - 3 = 16$

Answer: C

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69. Form the equation when a number which when multiplied by 7 is increased by 78.

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70. Find three consecutive natural numbers such that the sum of the first and second is 15 more than the third.

A. 16

B. 17

C. 18

D. 20

Answer: C

71. The difference between two numbers is 7. Six times the smaller plus the larger is 77. Find the numbers.

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72. A man says, "I am thinking of a number. When I divide it by 3 and then add 5, my answer is twice the number I thought of". Find the number.

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73. If a number is tripled and the result is increased by 5, we get 50. Find the number.

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74. Shikha is 3 years younger to her brother Ravish. If the sum of their ages is 37 years, what are their present ages?

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75. Mrs. Jain is 27 years older than her daughter Nilu. After 8 years she will be twice as old as Nilu. Find their present ages.

76. A man is 4 times as old as his son. After 16 years, he will be only twice as old as his son. Find their present ages.

77. The difference in age between a girl and her younger sister is 4 years. The younger sister in turn is 4 years older than her brother. The sum of the ages of the younger sister and her brother is 16. How old are the three children?

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78. One day, during their vacation at a beach resort, Shelia found twice as many sea shells

as Anita and Anita found 5 shells more than sandy. Together sandy and Sheila found 16 sea shells. How many did each of them find?

79. Andy has twice as many marbles as Pandy, and Sandy has half as many has Andy and Pandy put together. If Andy has 75 marbles more than Sandy. How many does each of them have?

80. A bag contains 25 paise and 50 paise coins whose total value is $Rs 30$. If the number of 25 paise coins is four times that of 50 paise coins, find the number of each type of coins.

81. The length of a rectangular field is twice its breadth. If the perimeter of the field is 228 meters, find the dimensions of the field.

82. There are only 25 paise coins in a purse. The value of money in the purse is $Rs17.50$. Find the number of coins in the purse.

83. In a hostel mess, $50kg$ rice are consumed every day. If each student gets $400gm$ of rice per day, find the number of students who take meals in the hostel mess.

A. 120

B. 125

C. 130

D. 110

Answer: B

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84. The zero of $3x + 2$ is

(a) $\dfrac{2}{3}$ (b) $\dfrac{3}{2}$ (c) $-\dfrac{2}{3}$ (d) $\dfrac{-3}{2}$

85. If $2x - \dfrac{3}{2} = 5x + \dfrac{3}{4},$ then $x =$

(a)$\dfrac{3}{4}$ (b)$-\dfrac{3}{4}$ (c)$\dfrac{4}{3}$ (d)$-\dfrac{4}{3}$

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86. If $\dfrac{x}{2} - 4 = \dfrac{x}{3} - 1,$ then $x =$

(a)3 (b) 6 (c)18 (d) 2

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87. If $\dfrac{x+2}{x-2} = \dfrac{2}{3}$

(a)-10 (b) 10 (c)$\dfrac{4}{3}$ (d) $-\dfrac{4}{3}$

88. If $\dfrac{x}{6} + \dfrac{x}{4} = \dfrac{x}{2} + \dfrac{3}{4}$, then $x =$

(a) 9 (b) 6 (c) -9 (d) 4

89. If $2x + \dfrac{5}{3} = \dfrac{1}{4}x + 4,$ then $x = $

(a)3 (b) 4 (c)$\dfrac{3}{4}$ (d) $\dfrac{4}{3}$

90. If $\dfrac{x}{2} - \dfrac{x}{3} = 5,$ then $x = $

(a)8 (b) 16 (c)24 (d) 30

91. If $\dfrac{x-2}{3} = \dfrac{2x-1}{3} - 1,$ then $x =$

(a) 2 (b) 4 (c) 6 (d) 8

92. The sum of two consecutive whole numbers is 43. The smaller number is

(a)21 (b) 22

(c)23 (d) 24

93. The sum of two consecutive odd number is 36. The larger number is

(a)17   (b) 15

(c)19   (d) 21

94. Twice a number when increased by 7 gives 25. The number is :

A. 7

B. 9

C. 10

D. 8

Answer: B

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95. The length of a rectangle is three times its width and its perimeter 56m. The length is

A. 7 m

B. 14 m

C. 21 m

D. 28 m

Answer: C

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96. Two-thirds of a number is greater than one-third of the number by 5. The number is

(a)10   (b) 5

(c)15   (d) 12

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97. If the sum of a number and its two-fifth is 70. The number is

(a)70 (b) 50

(c)60 (d) 90

98. $\dfrac{2}{3}$ of a number is less than the original number by 20. The number is

(a)30 (b) 40 (c)50 (d) 60

99. A number is as much greater than 31 as it is less than 91. The number is

(a) 46   (b) 56

(c) 61   (d) 76

100. Two complementary angles differ by 20^0. The smaller angle is

(a) 55^0 (b) 25^0 (c) 65^0 (d) 35^0

101. Two supplementary angles differ by 40^0.

The measure of the larger angle is

(a)70^0 (b) 80^0 (c)110^0 (d) 100^0

102. The sum of three consecutive odd number

is 81. The middle number is

A. 25

B. 27

C. 31

D. 29

Answer: A

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103. If $2(2n + 5) = 3(3n - 10)$, then $n =$

(a)5 (b) 3 (c)7 (d) 8

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