MATHS

BOOKS - SWAN PUBLICATION

SIMPLE EQUATIONS

Exercise 4 1

1. Complete the following :

Sr. No.	Equation	Value	Say, whether the equation statisfied (Yes/No)
(i)	$x + 5 = 0$	$x = 5$	
(ii)	$x + 5 = 0$	$x = -5$	
(iii)	$x - 3 = 1$	$x = 3$	
(iv)	$x - 3 = 1$	$x = -3$	

Sr. No.	Equation	Value	Say, whether the equation statisfied (Yes/No)
(v)	$2x = 10$	$x = 5$	
(vi)	$\dfrac{x}{3} = 2$	$x = -6$	
(vii)	$\dfrac{x}{3} = 2$	$x = 0$	

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2. Check whether the value given in the

brackets is a solution to the given equation or

not.

$$x + 4 = 11(x = 7)$$

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3. Check whether the value given in the brackets is a solution to the given equation or not.

$$8x + 4 = 28(x = 4)$$

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4. Check whether the value given in the brackets is a solution to the given equation or not.
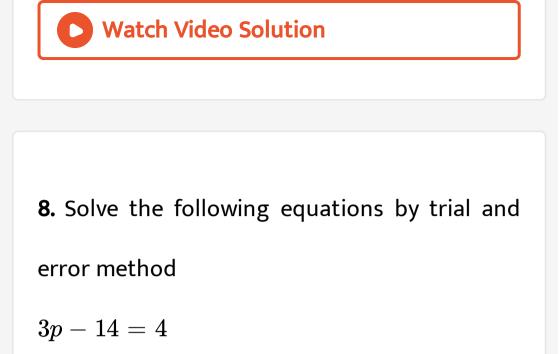
$$3m - 3 = 0 (m = 1)$$

5. Check whether the value given in the brackets is a solution to the given equation or not.

$$\frac{x}{5} - 4 = -1 (x = 15)$$

6. Check whether the value given in the brackets is a solution to the given equation or not
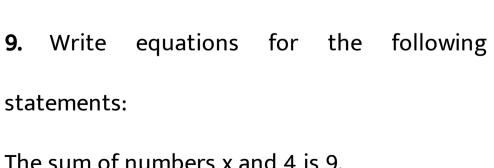
4p – 3 = 13 (p = 0)

7. Solve the following equations by trial and error method

$$5x + 2 = 17$$

8. Solve the following equations by trial and error method

$$3p - 14 = 4$$

9. Write equations for the following statements:

The sum of numbers x and 4 is 9.

10. Write equations for the following statements.

3 subtracted from y gives 9

11. Write equations for the following statements.

Ten times x is 50

12. Write equations for the following statements.

Nine times x plus 6 is 87

13. Write equations for the following statements.

One fifth of a number y minus 6 gives 3.

14. Write the following equations in statement form :

$$x - 2 = 6$$

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15. Write the following equations in statement form :

$$3y - 2 = 10$$

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16. Write the following equations in statement form :

$$\frac{x}{6} = 6$$

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17. Write the following equations in statement form :

$$7x - 15 = 34$$

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18. Write the following equations in statement form :

$$\frac{x}{2} + 2 = 8$$

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19. Write an equation for the following statements :

Raju's father's age is 4 years more than five times Raju's age. Raju's father is 54 years old.

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20. Write an equation for the following statements :

A teacher tells that the highest marks obtained by a student in his class is twice the lowest marks plus 6. The highest score is 86. (Take the lowest score, to be x).

21. Write an equation for the following statements :

In an isosceles triangle, the vertex angle is twice either base angle .

22. A shopkeeper sells mangoes in two types of boxes, one small and one large. A large box contains as many as 8 small boxes plus 4 loose mangoes. Set up an equation which gives the number of mangoes in each small box. The number of mangoes in a large box is given to be 100.
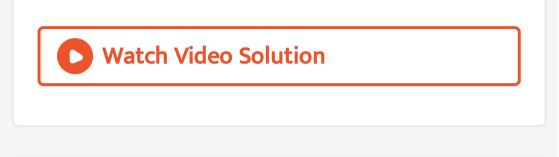
Exercise 4 2

1. Give first the step you will use to separate the variable and then solve the equation:

x+1 = 0

2. Write the first step that you will use to separate the variable and then solve the

equation.

$$x - 1 = 5$$

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3. Give first the step you will use to separate the variable and then solve the equation:

x+6 = 2

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4. Give first the step you will use to separate the variable and then solve the equation:

y+4 = 4

5. Write the first step that you will use to separate the variable and then solve the equation.

$$y - 3 = 3$$

6. Write the first step that you will use to separate the variable and then solve the equation :

$$3x = 15$$

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7. Give first the step you will use to separate the variable and then solve the equation:

$$\frac{p}{7} = 4$$

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8. Write the first step that you will use to separate the variable and then solve the equation :

$7y = 36$

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9. Write the first step that you will use to separate the variable and then solve the

equation :

$$20x = -40$$

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10. Give the steps you will use to separate the variable and then solve the equation.

$$5x + 7 = 17$$

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11. Give the steps you will use to separate the variable and then solve the equation:

$$\frac{20p}{3} = 40$$

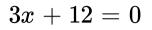**12.** Give the steps you will use to separate the variable and then solve the equation.

$$3p - 2 = 46$$

13. Solve the following equations :

$$20x + 20 = 200$$

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14. Solve the following equations :

$$\frac{-p}{3} = 5$$

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15. Solve the following equations :

$$3x + 12 = 0$$

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16. Solve the following equations:

2q – 6 = 0

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17. Solve the following equations :

$$3p = 0$$

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18. Solve the following equations:

3s = –9

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Exercise 4 3

1. Solve each of the following equation.

$$6x + 10 = -2$$

2. Solve each of the following equation.

$$2y - 3 = 2$$

3. Solve each of the following equation.

$$\frac{a}{5} + 3 = 2$$

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4. Solve each of the following equation.

$$\frac{3x}{2} = \frac{2}{3}$$

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5. Solve each of the following equation.

$$\frac{5}{2}x = -5$$

6. Solve each of the following equation.

$$2x + \frac{5}{2} = \frac{37}{2}$$

7. Solve the following equations :

$$5(x + 1) = 25$$

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8. Solve the following equations :

$$2(3x - 1) = 10$$

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9. Solve the following equations:

$4(2 - x) = 8$

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10. Solve the following equations:

$-4(2 + x) = 8$

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11. Solve the following equations :

$$4 = 5(x - 2)$$

12. Solve the following equations :

$$-4 = 5(x - 2)$$

13. Solve the following equations:

$4 + 5(p - 1) = 34$

14. Solve the following equations :

$$6y - 1 = 2y + 1$$

15. Construct 3 equations starting with x = 2

16. Construct 3 equations starting with x = – 2

17. If 7x + 4 = 39, then x is equal to

A. 6

B. -4

C. 5

D. 8

Answer:

18. If $8m - 8 = 56$ then m is equal to

A. -4

B. -2

C. -14

D. 8

Answer:

19. Which of the following number satisfies the

equation $-6 + x = -18$?

A. 10

B. -13

C. -12

D. -16

Answer:

20. If $\dfrac{x}{2} = 14$ then the value of 2x + 6 is equal to

A. 62

B. -64

C. 16

D. -62

Answer:

21. If 3 subtracted from twice a number is 5, then the number is

A. -4

B. -2

C. 2

D. 4

Answer:

22. If 5 added to thrice an integer is -7, then the integer is,

A. -6

B. -5

C. -4

D. 4

Answer:

Exercise 4 4

1. If 7 is added to five times a number, the result is 57. Find the number.

2. 9 decreased from four times a number yields 43. Find the number .

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3. Set up equations and solve them to find the unknown numbers in the following cases:

One-fifth of a number minus 4 gives 3.

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4. In a class of 35 students, the number of girls is two-fifth the number of boys. Find the number of girls in the class.

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5. Sham's father's age is 5 years more than three times Sham's age. Find Sham's age, if his father is 44 years old.

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6. In an isoscels triangle the base angles are equal. The vertex angle is $50°$ .What are the base angles of the triangle ? '(Remember, the sum of three angles of a triangle is $180°$)

7. Solve the following:

Irfan says that he has 7 marbles more than five times the marbles Parmit has. Irfan has 37 marbles. How many marbles does Parmit have?

8. The length of a rectangle is 3 units more than its breadth and the perimeter is 22 units. Find the breadth and length of the rectangle.

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1. Which of the following is a solution of equation : $\dfrac{m}{3} = 2$?

   A. -6

   B. 0

   C. $\dfrac{2}{3}$

   D. 6

Answer: D

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2. Which of these is a linear equation ?

A. $3x + 11$

B. $2x + 5 \leq 11$

C. $x - 5 = 7x + 6$

D. $\dfrac{5x + 6}{6}$

Answer: C

3. The sum of three times x and 12 is 33. Its equation form is :

A. $\dfrac{x}{3} + 12 = 33$

B. $\dfrac{x}{3} - 12 = 33$

C. $3x + 12 = 33$

D. $3x - 12 = 33$

Answer: C

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4. Solution of equation x - 7= 1 is

A. 7

B. -8

C. 8

D. 6

Answer: C

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5. The sum of a number and 4 is 12. Then the number will be:

A. 4

B. 16

C. 8

D. -8

Answer: C

6. If 3 is added to one third of Z the number obtained is 30. The equation of statement will be:

A. $3z + 3 = 30$

B. $3z = 30 + 3$

C. $\dfrac{z}{3} + 3 = 30$

D. $\dfrac{z}{3} = 30 + 3$

Answer: C

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7. Which of the following is a solution of equation $\dfrac{3p}{4} = 6$?

A. 6

B. 8

C. 4

D. 3

Answer: B

8. If we take 11 from the twice a number we get 15. The number will be.

A. 2

B. 26

C. 13

D. 52

Answer: C

9. The length of a rectangle is twice than that of its breadth. If its perimeter is 60 m. Then its length will be

    A. 30 m

    B. 20 m

    C. 10 m

    D. 60 m

Answer: B

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10. The sum of two consecutive natural numbers is 63. Then natural numbers will be:

    A. 29,34

    B. 30,33

    C. 31,32

    D. 28,35

Answer: C

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1. Letter number 'x' used in equation is called

....

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2. An equation is a .... that sets two expressions equal.

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3. A number which satisfies the given equation is called a .... of the equation.

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4. An equation containing only.one variable with highest power 1 is called a .... in one variable.

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5. An equation remains the .... if the L.H.S. and R.H.S are inter changed

Other Important Questions Iii State Whether The Following Statements Are True Or False

1. The same quantity can be added to both sides of an equation without disturbing the balance.

2. When a number 'multiplied on one side of an equation is transposed to the other side, it multiplies the terms on other side.

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3. When a number subtracted on one side is transposed to the other side, it is added.

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4. The number which satisfies the given linear equation is called the solution of the equation.

5. The process of finding the particular value of the variable which makes both sides of the equation equal is called solving the equation.