

CLASS VIII

MATHEMATICS WORKSHEET

CH 2 “LINEAR EQUATIONS IN ONE VARIABLE”

VERY SHORT ANSWER TYPE QUESTIONS

Q.1 Tell which of the following is a linear equation in one variable:

a) $x^2 - 4x + 3 = 0$

b) $6x - 2y = 7$

c) $3x - 1 = -2x$

d) $pq - 3 = p$

e) $3x + 2 = 4(x + 7) + 9$

Q.2 Find the value of x:

a) $3 + \frac{x}{4} = 5$

b) $\frac{x}{2} - \frac{x}{3} = 4$

c) $ax + b = 0$ where a, b are any integers

d) $\frac{50}{x} + 4 = 14$

Q.3 Half a number increased by 10 is 12. Find the number.

Q.4 Twice the sum of two numbers is 36. If one of the numbers is 10, find the other number.

Q.5 Twenty years from now, I will be 4 times as old as my present age. What is my present age?

Q.6 State whether the following statements are true or false:

a) A term may be transposed from one side of the equation to the other side but its sign will not change.

b) We cannot subtract the same number from both sides of an equation.

c) $x = 1$ is the solution of equation $4(x + 5) = 24$

SHORT ANSWER TYPE QUESTIONS

Q.7 Solve the following equations and check the solutions:

a) $5 - 3(5x + 2) = 4(7 - 3x) + 1$

b) $\frac{6x+1}{3} + 1 = \frac{x-3}{6}$

c) $\frac{x+1}{2x+3} = \frac{3}{8}$

d) $0.3(6 - x) = 0.4(x + 8)$

$$\text{e) } \frac{(2+x)(x-7)}{(x-5)(x+4)} = 1$$

$$\text{f) } \frac{9x-7}{3x+5} = \frac{3x-4}{x+6}$$

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

$$\text{h) } \frac{5x-4}{8} - \frac{x-3}{5} = \frac{x+6}{4}$$

$$\text{i) } 0.12x + \frac{(0.5+x)}{2} = \frac{x}{3} + 1.5$$

Q.8 Solve:

$$\frac{x+3}{2} - \frac{x-2}{2} = 1. \text{ Hence find } p, \text{ if } \frac{1}{x} + p = 1$$

LONG ANSWER TYPE QUESTIONS

Q.9 The two perpendicular sides of a right angled triangle are in the ratio 3:4 and it's perimeter is 96 cm. Find the three sides.

Q.10 Two supplementary angles differ by 50° . Find measure of each angle.

Q.11 Sum of three consecutive even numbers is 36. Find the numbers.

Q.12 The numerator of a fraction is 2 less than the denominator. If 3 is added to both the numerator the fraction becomes $\frac{3}{4}$. Find the fraction.

Q.13 A number consists of two digits whose sum is 12. If 18 is added to the number, the digits are reversed. Find the number.

Q.14 Maira has a total of ₹ 1040 as currency notes in the denomination of ₹ 10, ₹ 20 and ₹ 50. The ratio of the number of ₹ 10 notes and ₹ 20 notes is 2:5. If she has a total of 30 notes, how many notes of each denomination she has.

Q.15 A number is such that ratio of 84 less than the number and difference of 108 and the number is 1:1. Find the number.

Q.16 Mr. X has to cover a certain distance. He covers $\frac{2}{5}$ th of the total distance by car, $\frac{3}{10}$ th by bus, $\frac{1}{5}$ th by auto-rickshaw and the remaining 5km on foot. What is the total distance?

ANSWERS

1. c, e
2. a) 8 b) 24 c) $-\frac{b}{a}$ d) 5
3. 4
4. 8
5. 7
6. a) False b) False c) True
7. a) -10 b) -1 c) $\frac{1}{2}$ d) -2 e) $\frac{3}{2}$ f) $\frac{1}{2}$ g) 1 h) 8 i) 4.36
8. $x = 6, p = \frac{5}{6}$
9. 24, 32, 40
10. $115^0, 65^0$
11. 10, 12, 14
12. $\frac{3}{5}$
13. 57
14. 4, 10, 16
15. 96
16. 50