

WORK SHEET

Maths - 10th

Q (1): Find the value of k for which the following system of equations has infinitely many solutions:

$$2x + 3y - 5 = 0 \quad 6x + ky - 15 = 0 \quad (\text{SUBJECTIVE})$$

Q (2): Find the value of k for which the following system of equations has infinitely many solutions:

$$kx - 2y + 6 = 0 \quad 4x - 3y + 9 = 0 \quad (\text{SUBJECTIVE})$$

Q (3): Find the value of k for which the following system of equations has infinitely many solutions:

$$2x - 3y = 7 \quad (k + 2)x - (2k + 1)y = 3(2k - 1) \quad (\text{SUBJECTIVE})$$

Q (4): Find the values of

a and

b so that the following system of linear equations have infinite number of solutions:

$$3x + 4y = 12 \\ (a + b)x + 2(a - b)y = 5a - 1 \quad (\text{SUBJECTIVE})$$

Q (5): The sum of the numerator and denominator of a fraction is 4 more than twice the numerator. If the numerator and denominator are increased by 3, they are in the ratio 2:3. Determine the fraction. (SUBJECTIVE)

Q (6): Two years ago, Salim was thrice as old as his daughter and six years later, he will be four years older than twice her age. How old are they now? (SUBJECTIVE)

Q (7): The age of the father is twice the sum of the ages of his two children. After 20 years, his age will be equal to the sum of the ages of his children. Find the age of the father. (SUBJECTIVE)

Q (8): The area of a rectangle remains the same if the length is increased by 7 metres and the breadth is decreased by 3 metres. The area remains unaffected if the length is decreased by 7 metres and the breadth is increased by 5 metres. Find the dimensions of the rectangle. (SUBJECTIVE)

Q (9): 2 men and 7 boys can do a piece of work in 4 days. The same work is done in 3 days by 4 men and 4 boys. How long would it take one man and one boy to do it? (SUBJECTIVE)

Q (10): In a cyclic quadrilateral ABCD,

$$\angle A = (2x + 4)^\circ, \angle B = (y + 3)^\circ, \angle C = (2y + 10)^\circ, \angle D = (4x - 5)^\circ. \text{ Find the four angles.} \\ (\text{SUBJECTIVE})$$

Q (11): Write the number of solutions of the following pair of linear equations:

$$x + 3y - 4 = 0 \quad 2x + 6y = 7 \quad (\text{SUBJECTIVE})$$

Q (12): Solve the following system of equations:

$$7(y + 3) - 2(x + 2) = 14$$

$$4(y - 2) + 3(x - 3) = 2 \text{ (SUBJECTIVE)}$$

Q (13): Solve the following system of equations:

$$11x + 15y + 23 = 0$$

$$7x - 2y - 20 = 0 \text{ (SUBJECTIVE)}$$

Q (14): Solve the following system of equations:

$$0.4x + 0.3y = 1.7$$

$$0.7x - 0.2y = 0.8 \text{ (SUBJECTIVE)}$$

Q (15): Solve the following system of equations:

$$x + 2y = \frac{3}{2} \quad 2x + y = \frac{3}{2} \text{ (SUBJECTIVE)}$$

Q (16): Solve the following system of equations:

$$2x - \frac{3}{y} = 9 \quad 3x + \frac{7}{y} = 2, y \neq 0 \text{ (SUBJECTIVE)}$$