1. What is the solution of the equation 2x + 3y = 15 when x =4:
   A. y = 3 B. y = 2
   C. y = 1 D. y = 4 (A)

Explanation: Substituting 2 4 into the equation 2(4) + 3y = 15 we get 8 + 3y = 15 which simplifies to 3y = 7 and thus y = 3

2. The solutions of the equation 3x + 5y = k are x = - 2 and y = 3 What is the value of k?
   A. 12
   B. 15
   C. 9
   D. 6 (A)

Explanation: Substituting x = - 2 and y = 3 into 3x + 5y = k we get 3(- 2) + 5(3) = k which simplifies to - 6 + 15 = 9 so k = 12

3. How many solutions does the equation 2x + 3y = 12 have?
   A. One B. Two
   C. No solution D. Infinite (D)

Explanation: Since this is a linear equation in two variables, there are infinitely many solutions, as we can assign different values to x and y that satisfy the equation

4. What is the solution to the equation x + 2y = 6 for four different values of y?
   A. y = 3 x = 2 y = 2 x = 4 y = 1 x = 6 y = 0 , x = 8
   B. y = 3 3,1; y = 2 x = 4 y = 1 x = 8 y = 0 x = 12
   C. y = 2 x = 3 y = 1 x = 4 y = 0 x = 6 y = 3 x = 5
   D. y = 3 x = 6 y = 2 x = 4 y = 1 x = 2 y = 0 x = 0 (A)

Explanation: Substituting different values for y into the equation x + 2y = 6 , we get corresponding values of a for each y

5. What is the value of x if 3x + 4 = 10 ?
   A. 2
   B. 4
   C. 6
   D. 3 (A)

Explanation : Subtracting 4 from both sides of the equation gives 3x = 6 , and dividing by 3 gives x = 2

6. What is the solution to the equation 4x + 3y = 12 when x = 1 ?
   A. y = 2
   B. y = 1
   C. y = 4
   D. y = 3 (A)

Explanation: Substituting x = 1 into the equation 4(1) + 3y = 12 we get 4 + 3y = 12 , which simplifies to 3y = 8 and then y = 2

7. Which of the following is a solution of the equation 5x + 2y = 20
   A. x = 2 y = 5
   B. x = 3 y = 4
   C. x = 4 y = 2
   D. x = 5 y = 0 (C)

Explanation: Substituting x = 4 and y = 2 into the equation 5(4) + 2(2) = 20 we get 20 + 4 = 20 which is true. Hence, x = 4, y = 4 is a solution.

8. What is the solution to the equation 6x + 7y = 42 for x = 3 ?
   A. y = 4 B. y = 6
   C. y = 3 D. y = 2 (A)

Explanation: : Substituting x = 3 into the equation 6(3) + 7y = 42 we get 18 + 7y = 42 which simplifies to 7y = 24 and y = 4

9. What is the solution to the equation 2x + 3y = 6 when y = 2 ?
   A. x = 2
   B. x = 1
   C. x = 0
   D. x = 3 (B)

Explanation: Substituting y = 2 into the equation 2x + 3(2) = 6 we get 2x + 6 = 6 which simplifies to 2x = 0 and x = 1

10. What is the solution to the equation x + y = 4 when y = 1 ?
    A. x = 2
    B. x = 3
    C. x = 4
    D. x = 5 (B)

Explanation: Substituting y = 1 into the equation x + 1 = 4 we get x = 3

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