Linear Equation in Two Variables: Practice Questions

If you want to getter a better hold of the topic, here are some important questions you can practice:

1. How is the linear equation in two variables different from the linear equation in one variable?
2. How are the fundamentals of linear equations applicable in solving real-life problems?
3. How to represent the linear equation solution on a number line?
4. Find the value of variables which satisfies the following equation: $2x + 5y = 20$ and $3x+6y =12$.
5. A boat running downstream covers a distance of 40 km in 3 hours while for covering the same distance upstream, it takes 6 hours. What is the speed of the boat in still water?
6. A boat running upstream takes 6 hours 10 minutes to cover a certain distance, while it takes 3 hours to cover the same distance running downstream. What is the ratio between the speed of the boat and the speed of the water current, respectively?
7. The sum of the digits of a two-digit number is 8. When the digits are reversed, the number is increased by 18. Find the number.
8. Jake's piggy bank has11 coins (only quarters or dimes) that have a value of $1.85. How many dimes and quarters does the piggy bank has?
9. In a river, a boat can travel 30 miles upstream in 2 hours. The same boat can travel 51 miles downstream in 3 hours. Then
    1. What is the speed of the boat in still water?
    2. What is the speed of the current?
10. Draw the graph of the following linear equation in two variables: $3x + 2y = 6$
11. Mrs. Ahuja Lost Her Wallet that had 50 Rupees and 200 Rupee Notes that Amount to 1800 in a Mall. Represent the Composition of the Wallet as an Equation and Draw the Graph.
12. Draw the Graph of the Equation $2x + 3y = 12$ and Find the Coordinates of the Point:

1. Where Y-coordinate is 3
2. Where X-coordinate is −3

13. Give the equations of two lines passing through (2, 14). How many more such lines are there, and why?

14. If the point (3, 4) lies on the graph of the equation 3y = ax + 7, find the value of a.

15. The taxi fare In a city Is as follows: For the first kilometer, the fare Is Rs. 8 and for the subsequent distance it is Rs. 5 per km. Taking the distance covered as x km and total fare as Rs.y, write a linear equation for this Information, and draw Its graph.

16. If the work done by a body on the application of a constant force is directly proportional to the distance traveled by the body, express this in the form of an equation in two variables and draw the graph of the same by taking the constant force as 5 units. Also read from the graph the work done when the distance traveled by the body is
    1. 2 units
    2. 0 unit

17. Yamini and Fatima, two students of Class IX of a school, together contributed Rs. 100 towards the Prime Minister's Relief Fund to help the earthquake victims. Write a linear equation that satisfies this data. (You may take their contributions as Rs.x and Rs.y.) Draw the graph of the same.

18. Give the geometric representations of 3x + 9 = 0 as an equation
    1. in one variable
    2. in two variables

19. For the following questions use the Method of Substitution to find the solution to the given system or to determine if the system is inconsistent or dependent.
    1. x - 7y = -11 and 5x + 2y = -18
    2. 7x - 8y = -12 and -4x + 2y = 3
    3. 3x + 9y + -6 and -4x - 12y = 8

20. For the following questions, use the Method of Elimination to find the solution to the given system or to determine if the system is inconsistent or dependent.
    1. 6x - 5y = 8 and -12x + 2y = 0
    2. -2x + 10y = 2 and 5x - 25y = 3
    3. 2x + 3y = 20 and 7x = 2y = 53