Activity 1.4.5: Linear Equations in Two Variables

Total points = 47

A. Answers

1. $4x - 5y = 2$ ✓
   $4(-2) - 5y = 2$ ✓
   $-8 - 5y = 2$ ✓
   $-8 + 8 - 5y = 2 + 8$ ✓
   $\frac{-5y}{-5} = \frac{10}{-5}$ ✓
   $y = -2$ ✓
   $\therefore$ Sol. $= (-2, -2)$ ✓
2. $x + 6y = 20$ ✓
   $-4 + 6y = 20$ ✓
   $-4 + 4 + 6y = 20 + 4$ ✓
   $\frac{6y}{6} = \frac{24}{6}$ ✓
   $y = 4$ ✓
   $\therefore$ Sol. $= (-4, 4)$ ✓
3. $3x - 2y = -3$ ✓
   $3(1) - 2y = -3$ ✓
   $3 - 2y = -3$ ✓
   $3 - 3 - 2y = -3 - 3$ ✓
   $\frac{-2y}{-2} = \frac{-6}{-2}$ ✓
   $y = 3$ ✓
   $\therefore$ Sol. $= (1, 3)$ ✓
4. $-\frac{1}{2}x + 4y = 4$ ✓
   $-\frac{1}{2}(-4) + 4y = 4$ ✓
   $2 + 4y = 4$ ✓
   $2 - 2 + 4y = 4 - 2$ ✓
   $\frac{4y}{4} = \frac{2}{4}$ ✓
   $y = \frac{1}{2}$ ✓
   $\therefore$ Sol. $= (-4, \frac{1}{2})$ ✓
5. $-2x + 3y = 9$ ✓
   $-2(3) + 3y = 9$ ✓
   $-6 + 3y = 9$ ✓
   $-6 + 6 + 3y = 9 + 6$ ✓
   $\frac{3y}{3} = \frac{15}{3}$ ✓
   $y = 5$ ✓
   $\therefore$ Sol. $= (3, 5)$ ✓

B. Answers

1. Coefficients = 3, -2 ✓; Constant = -3 ✓
2. Coefficients = $-\frac{1}{3}$, 5 ✓; Constant = -4 ✓

C. Answers

1. Slope = -3 ✓; y-intercept = 2 ✓
2. Slope = $-\frac{1}{4}$ ✓; y-intercept = 5 ✓

D. Answers

1. No ✓
2. Yes ✓
3. No ✓
4. Yes ✓
5. No ✓