

Linear Equations in Two Unknowns Part 2

Solution

2. D

Sub $x = -2.5$ into the equation $3x + y = -3$, we have $y = 4.5$.

3. C

Consider the equation $3x - 4y = 6$ and the point $(-2, 3)$.
 Substituting $x = -2$ and $y = 3$ into the equation $3x - 4y = 6$,
 we have L.H.S. = $3(-2) - 4(3) = -18$

$$\text{R.H.S.} = 6$$

$$\text{L.H.S.} \neq \text{R.H.S.}$$

$\therefore (-2, 3)$ does not satisfy the equation $3x - 4y = 6$.

Consider the equation $4x - 3y = 6$ and the point $(2, 0)$.
 Substituting $x = 2$ and $y = 0$ into the equation $4x - 3y = 6$,
 we have L.H.S. = $4(2) - 3(0) = 8$

$$\text{R.H.S.} = 6$$

$$\text{L.H.S.} \neq \text{R.H.S.}$$

$\therefore (2, 0)$ does not satisfy the equation $4x - 3y = 6$.

Consider the equation $3x + 4y = 6$ and the point $(-2, 3)$
 and $(2, 0)$.

Substituting $x = -2$ and $y = 3$ into the equation $3x + 4y = 6$,
 we have L.H.S. = $3(-2) + 4(3) = 6$

$$\text{R.H.S.} = 6$$

$$\text{L.H.S.} = \text{R.H.S.}$$

$\therefore (-2, 3)$ satisfies the equation $3x + 4y = 6$.

Sub $x = 2$ and $y = 0$ into the equation $3x + 4y = 6$,

we have L.H.S. = $3(2) + 4(0) = 6$

$$\text{R.H.S.} = 6$$

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4. D

Since the y -coordinate of the point $(-5, 5)$ is 5, $(-5, 5)$
 lies on the graph of the equation $y = 5$.

5. B

Sub each of the ordered pairs into the equation
 $-3x + y + 11 = 0$.

$$\text{A: } (-3)(3) + 2 + 11 = 4 \neq 0$$

$$\text{B: } (-3)(3) + (-2) + 11 = 0$$

$$\text{C: } (-3)(-3) + 2 + 11 = 22 \neq 0$$

$$\text{D: } (-3)(-3) + (-2) + 11 = 18 \neq 0$$

$\therefore (3, -2)$ can satisfy the equation $-3x + y + 11 = 0$.