

September 27, 2017

1.2 #59) $x^4 + y^2 - xy = 16$

$$x^4 + (0)^2 - x(0) = 16$$

$$\sqrt[4]{x^4} = \sqrt[4]{16}$$

$$x = \pm 2$$

$$(0)^4 + y^2 - (0)y = 16$$

$$\sqrt{y^2} = \sqrt{16}$$

$$y = \pm 4$$

x	y
± 2	0
0	± 4

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Lines

Slope = $m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{rise}}{\text{run}}$

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Equations of Lines

① S.I. $Ax + By = C$
 where $A, B, \& C$ are real numbers and not written as fractions

$4x + 3y = 9$

② $y = m(x + b)$ (Slope-Intercept)
 \downarrow Slope \downarrow y-intercept $(0, b)$

$$4x + 3y = 9$$

$$\frac{3y}{3} = \frac{-4x + 9}{3}$$

$$y = \left(-\frac{4}{3}\right)x + 3$$
 \downarrow m $(0, 3)$

③ $y - y_1 = m(x - x_2)$ (Point-Slope)
 \downarrow (x_1, y_1) \downarrow m

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$4x + 3y = 9$

method ① $y = \left(-\frac{4}{3}\right)x + 3$

method ②

x	y
0	3
3	-1

$(0, 3)$ $(-3, 7)$

$(0, 3)$ $(3, -1)$

$y = -\frac{4}{3}(3) + 3$

$y = -4 + 3$

$y = -1$

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Slope

① Positive slope

② Negative slope

③ 0 slope

④ undefined slope

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