

MATH 210 FINITE MATHEMATICS

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1.4 Intersection of Two Lines

Example 1

Find the point of intersection of the two lines

$$y = \frac{1}{4}x - 5, \quad -\frac{27}{4}x + 3y = 9$$



$$X\text{-INT: } y = 0 \quad -\frac{27}{4}x = 9$$

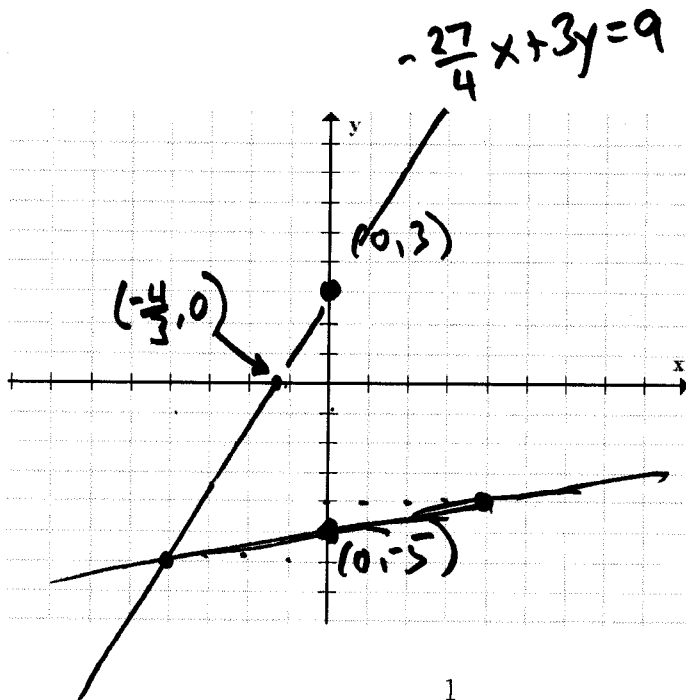
$$x = \frac{-36}{27} = -\frac{4}{3}$$

$$Y\text{-INT: } x = 0 \quad 3y = 9$$

$$y = 3$$

$$(0, 3)$$

$$(0, 3)$$



$$\text{GUESS } (-4, -6)$$

$$\begin{aligned} \text{CHECK: } y &= \frac{1}{4}x - 5 \\ -6 &= \frac{1}{4}(-4) - 5 \\ -6 &= -6 \quad \checkmark \end{aligned}$$

SO $(-4, -6)$ IS THE INTERSECTION