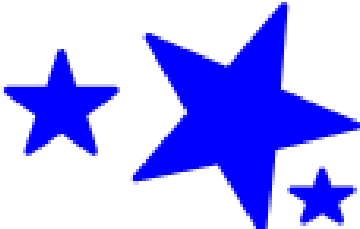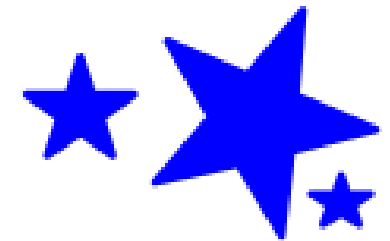# 7 - 8
Solutions of Linear and Nonlinear Equations

nonlinear function: graph is __not__ a straight line

solutions: values that make the equation true

Determine if the ordered pair is a solution.
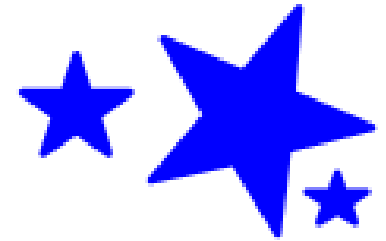
Ex: $(-4, -1)$ $y = \frac{1}{2}x - 3$

no

$$-1 = \frac{1}{2}(-4) - 3$$

$$-1 = -2 - 3$$

$$-1 \ne -5$$

Determine if the ordered pair is a solution.
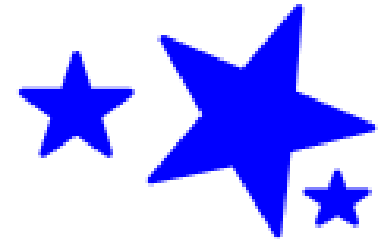
Ex: (- 3, 7)   y = x + 4

$$7 = |-3| + 4$$

$$7 = 3 + 4$$
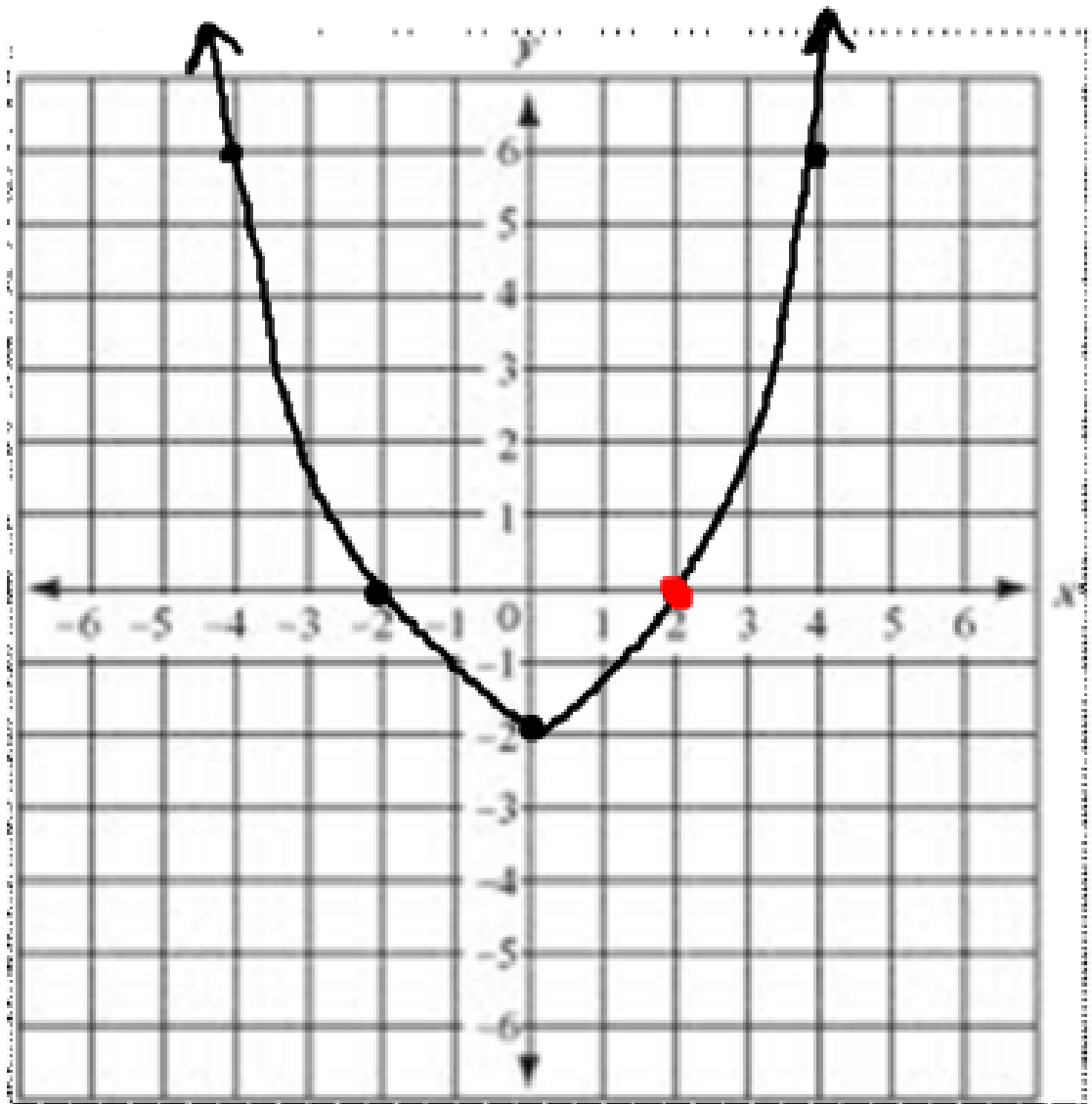
$$7 = 7 \checkmark$$

yes

$$7 = |3| + 4$$

$$7 = 3 + 4$$
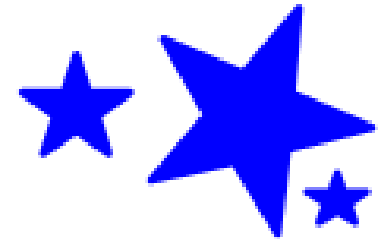
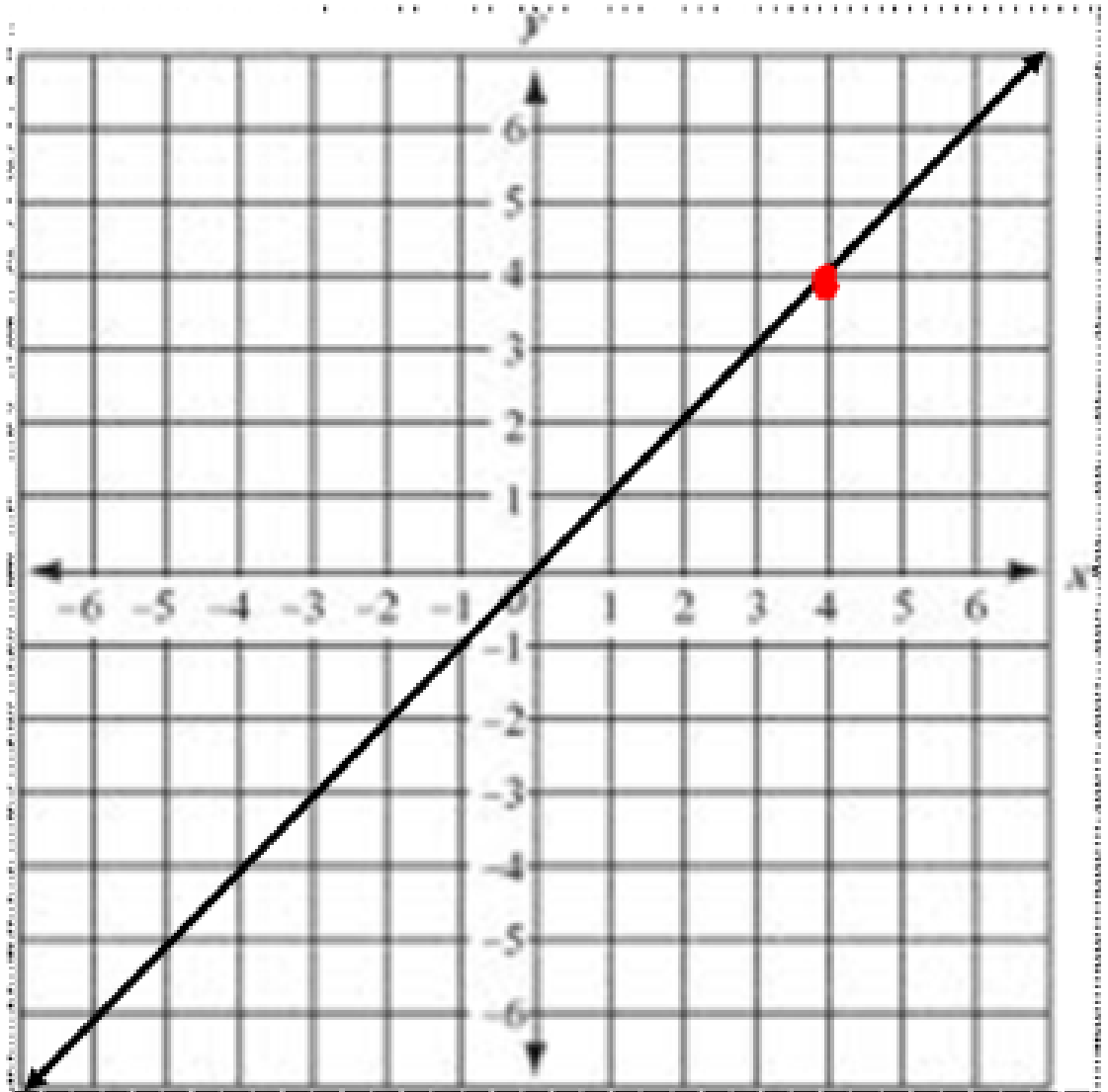# Determine if the ordered pair is a solution.

Ex: (2, 0)
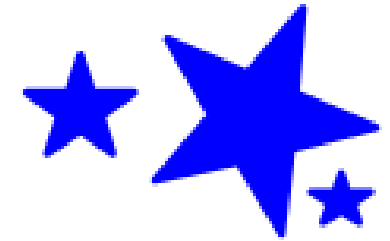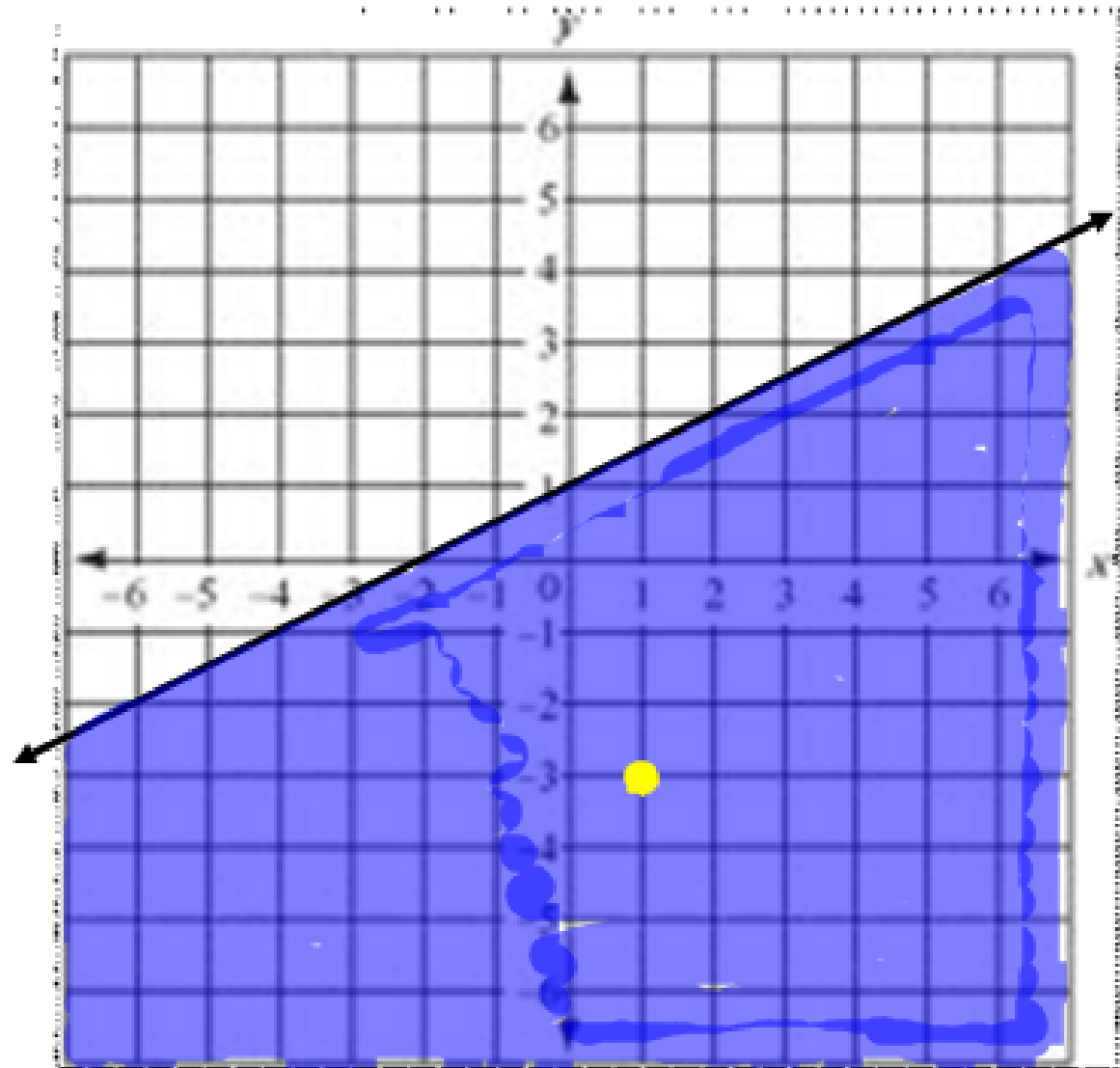
yes

Determine if the ordered pair is a solution.

Ex: (4, 4)

YeS

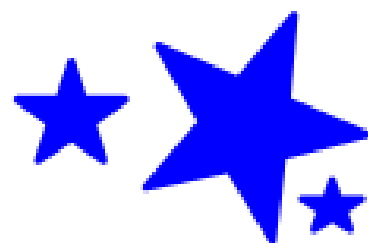# Determine if the ordered pair is a solution.

Ex: (1, - 3)

Yes

Determine if the ordered pair is a solution.

Ex: (- 2, 4)

no

Homework:

7-8 WS

$$x \quad y$$

1.) $\left(\dfrac{1}{2}, \dfrac{3}{4}\right)$
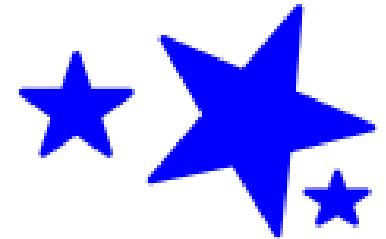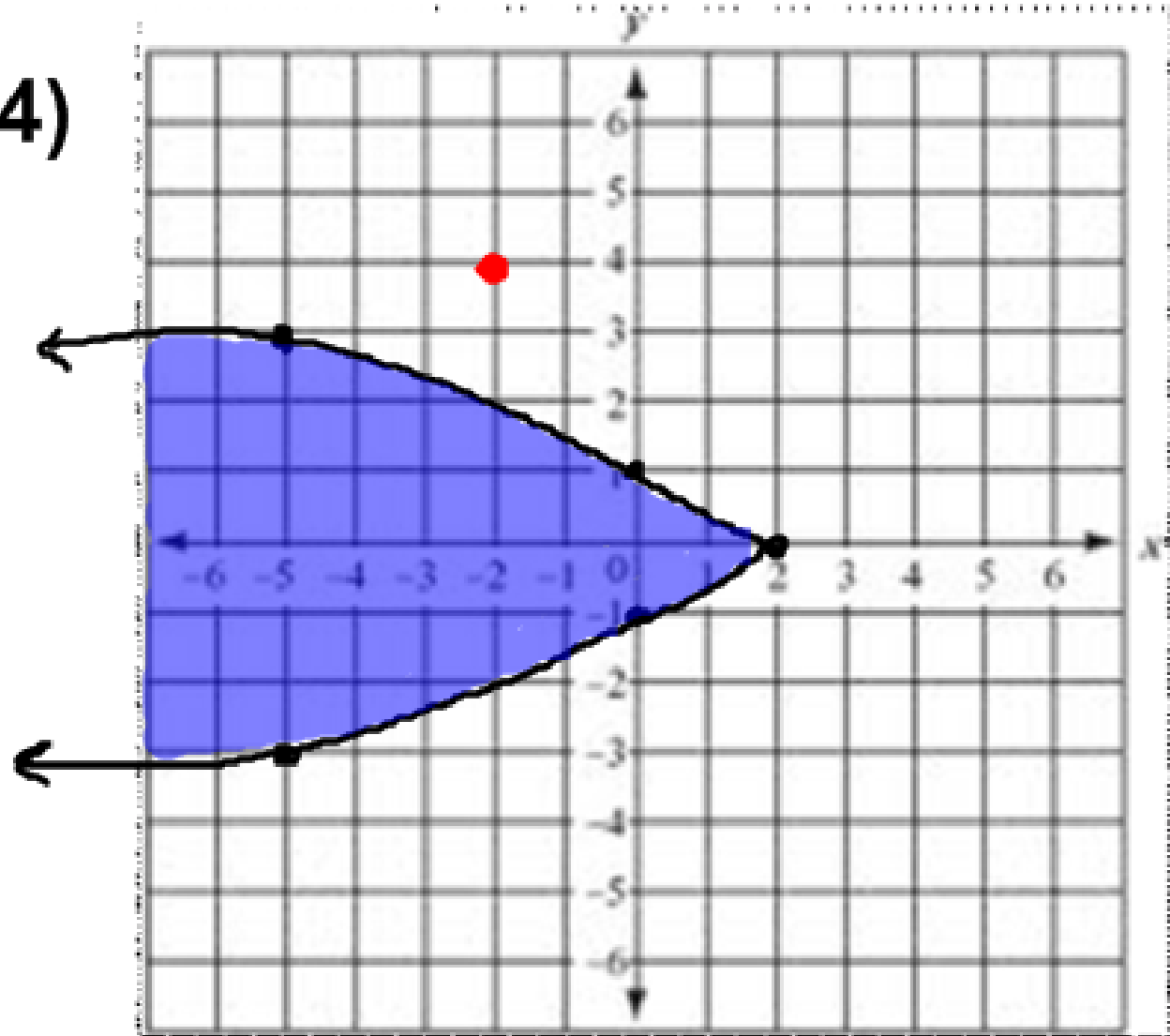
$$\boxed{\text{Yes}}$$

$$y = \dfrac{1}{4}x + \dfrac{5}{8}$$

$$\dfrac{3}{4} = \dfrac{1}{4}\left(\dfrac{1}{2}\right) + \dfrac{5}{8}$$

$$\dfrac{3}{4} = \dfrac{1}{8} + \dfrac{5}{8}$$

$$\dfrac{3}{4} = \dfrac{6}{8} \quad \dfrac{3}{4}$$