Factor completely. $\dfrac{25}{64}k^2 - \dfrac{49}{9}$

$$\left(\tfrac{5}{8}k + \tfrac{7}{3}\right)\left(\tfrac{5}{8}k - \tfrac{7}{3}\right)$$

A company makes compressors and wants to maximize their Revenue. The following equation models the company's revenue (thousands of $) as a function on the number of employees it has.

$$R(e) = -0.24e^2 + 21.6e + 1250$$

vertex $(45, 1736)$

$e) R$

1. Find the company's maximum Revenue.

1736, 000

2. How many employees will produce this maximum revenue?

45 employees

Find the equation for the LOS, coordinates of the Vertex, and y-intercept for each quadratic.

$y = 2x^2 + 12x - 7$

LOS: $\dfrac{-12}{4}$ $x = -3$

Vertex: $(-3, -25)$

Y-int: -7

$y = -3(x + 5)^2 - 1$

LOS: $x = -5$

Vertex: $(-5, -1)$

Y-int: -76

Find the equation for the LOS, coordinates of the Vertex, and y-intercept for each quadratic.

$y = 1.5x^2 + 15x$

LOS: $\dfrac{-15}{3}$ $x = -5$
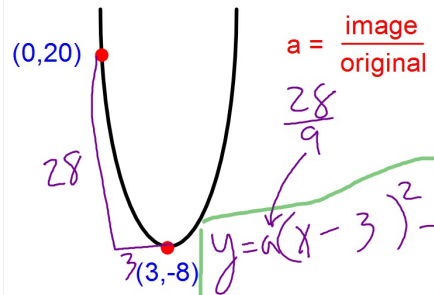
Vertex: $(-5, -37.5)$

Y-int: 0

$y = 6x^2 - 24$

LOS: $x = 0$

Vertex: $(0, -24)$

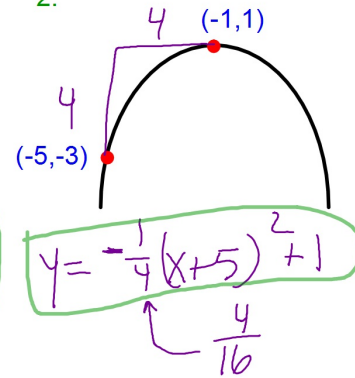Y-int: -24

Write the equation of each quadratic in Vertex Form.

1.

(0,20)

28

3(3,-8)

$a = \dfrac{\text{image}}{\text{original}}$

$\dfrac{28}{9}$

$y = a(x - 3)^2 - 8$

2.

4   (-1,1)

4

(-5,-3)

$y = -\dfrac{1}{4}(x+5)^2 + 1$

$\dfrac{4}{16}$