If the x-intercepts of a parabola are -9 and 5 what

factors did they come from?

What Quadratic Function did they come from?

$$V = X^2 + 4X - 45$$

 $y = x^2 - x - 12$

is only one of an infinite # of parabolas that have x-intercepts of 4 and -3.

They all have the form:

$$y = a(x-4)(x+3)$$

To find the value of **a** we need one more piece of information.

Find the equation of a quadratic, in Standard Form, with the following x-intercepts:

4 and -3
$$(x-4)(x+3)$$

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

Find the only parabola that has x-intercepts of -2 and 6 and passes through the point (4,60)

$$y = a(x+2)(x-6) = -5(x+2)(x-6)$$

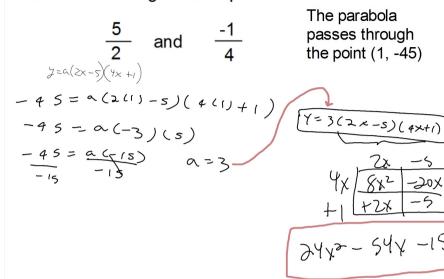
$$60 = a(4+2)(4-6)$$

$$60 = -12a$$

$$-12a$$

$$-5=a$$

Find the equation of a quadratic, in Standard Form, with the following x-intercepts:



$$\frac{6x^{3} + 9x^{2} - 60x}{3x \left(2x^{2} + 3x - 2x\right)} = \frac{3x \left(x + 4\right)\left(2x - 5\right)}{x}$$

$$\frac{2x^{2} + 3x - 2x}{2x^{2} + 8x}$$

$$\frac{-40}{x^{3}} = \frac{2x}{5} + \frac{2x^{2}}{5} + \frac{48x}{5}$$

Factor each completely:

$$1.6x^3 + 9x^2 - 60x$$

2.
$$150x^3 - 294x$$

3.
$$4x^4 - x^2 - 18$$

$$150x^3 - 294x$$

$$6x(25x^{2}-49)$$
 $6x(5x\pm 7)$