1. Use this quadratic in Factored Form: $y = (x + 7)(x - 3)$
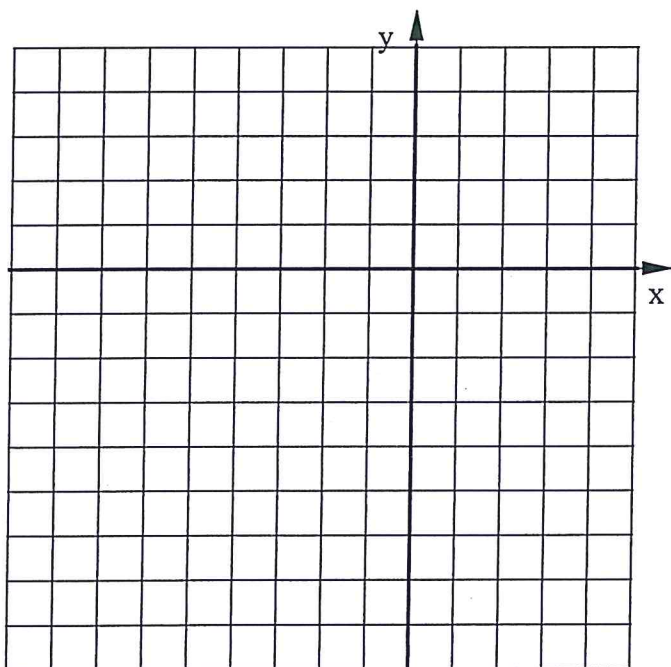
a. Find the x-intercepts

b. Find the equation for the LOS.

c. Find the coordinates of the Vertex.

d. Find the y-intercept.

2. Graph this quadratic with at least 5 points. $y = (x - 1)(x + 5)$

Factor each completely.

3. $48a^4 + 84a^2$

4. $24c^3 + 42c^2 - 90c$

5. $54cw^7 - 294c^3w$

1. Use this quadratic in Factored Form: $y = (x+7)(x-3)$

a. Find the x-intercepts

$$X = -7, 3$$

b. Find the equation for the LOS.

$$LOS: \quad X = \frac{-7+3}{2} = \frac{-4}{2}$$

$$X = -2$$
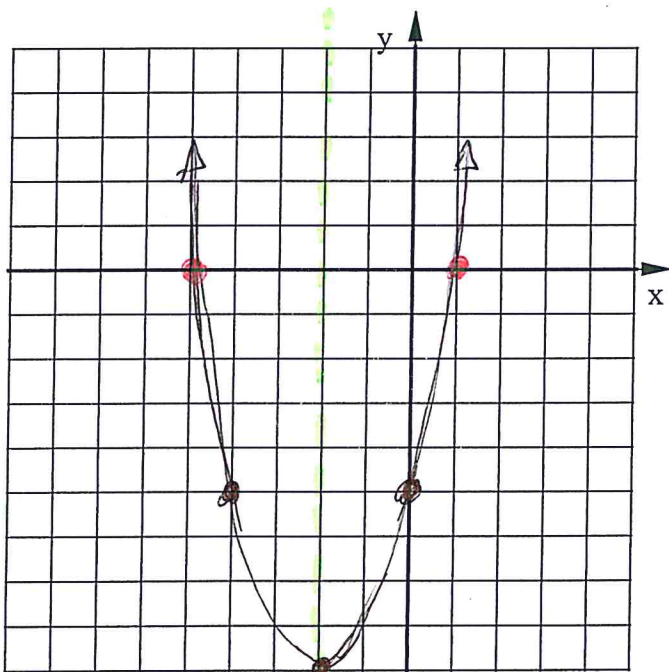
c. Find the coordinates of the Vertex.

$$(-2, -25)$$

$\llcorner (-2+7)(-2-3)$

$= (5)(-5) = -25$

d. Find the y-intercept.

$$y\text{-int} = -21$$

$\llcorner (0+7)(0-3)$

$= (7)(-3) = -21$

2. Graph this quadratic with at least 5 points. $y = (x-1)(x+5)$

$x\text{-int} = 1, -5$

$LOS \quad X = \frac{-5+1}{2} = \frac{-4}{2} = -2$

Vertex $(-2, -9)$

$\llcorner (-2-1)(-2+5)$

$= (-3)(3) = -9$

$y\text{-int} =$

$\llcorner (0-1)(0+5) = (-1)(5) = -5$

LOS $X = -2$

Factor each completely.

3. $48a^4 + 84a^2$

$$12a^2(4a^2 + 7)$$

4. $24c^3 + 42c^2 - 90c$

$= 6c(4c^2 + 7c - 15)$

$= 6c(c+3)(4c-5)$

-60

$12 \diagdown \diagup$ -5
$\diagup \diagdown$ $+7$

	c	$+3$
$4c$	$4c^2$	$12c$
-5	$-5c$	-15

5. $54cw^7 - 294c^3w$

$6cw(9w^6 - 49c^2)$

$6cw(3w^3 \pm 7c)$

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