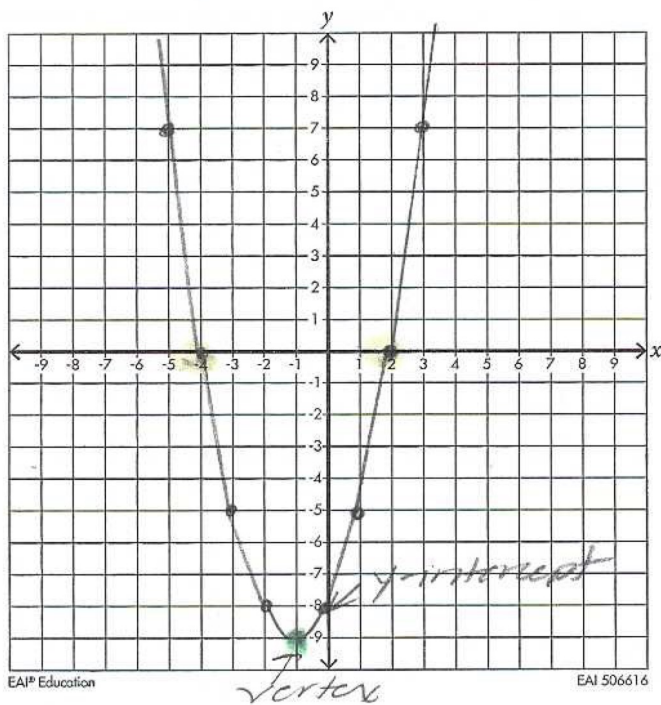


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Graphs of Quadratics



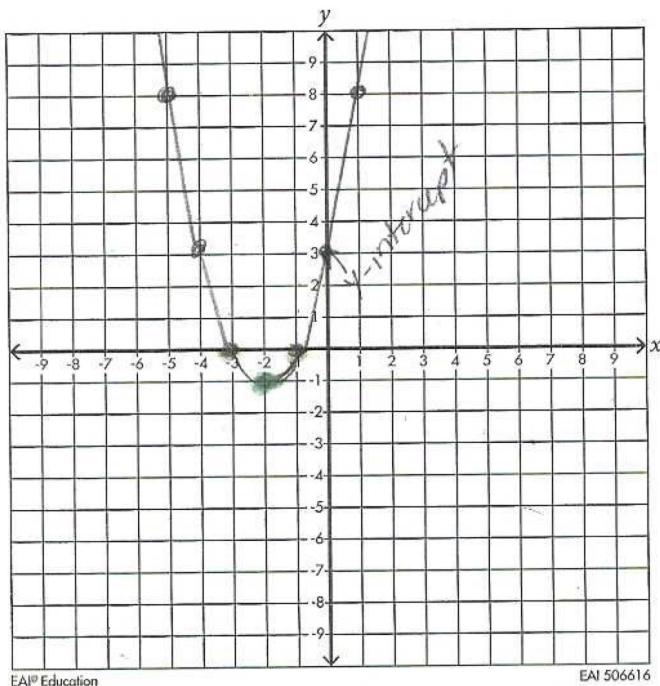
$$y = x^2 + 2x - 8$$

$$0 = (x + 4)(x - 2)$$

$$x = -4 \quad | \quad x = 2$$

↖ zeros ↗

	x	y
zero	-4	0
	-3	-5
	-2	-8
vertex	-1	-9
	0	-8
	1	-5
zero	2	0



$$y = x^2 + 4x + 3$$

$$0 = (x + 3)(x + 1)$$

$$x = -3 \quad | \quad x = -1$$

└───┬───┘
-zeros

	x	y
	-5	8
	-4	3
zero	-3	0
vertex	-2	-1
zero	-1	0
	0	3
	1	8

Graphs of Quadratics

1) $y = x^2 - 4x + 3$ $a=1, b=-4, c=3$

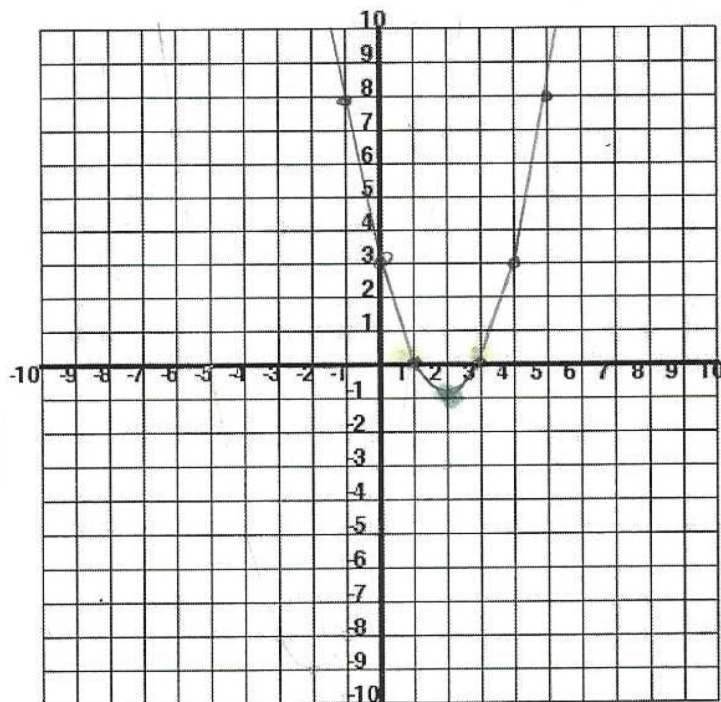
$$x = \frac{-b}{2a}$$

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

$$x = \frac{+4}{2}$$

$x = 2$
axis of sym. → vertex

x	y
-1	8
0	3
1	0
2	-1
3	0
4	3
5	8



2) $y = x^2 - 6x$ $a=1, b=-6, c=0$

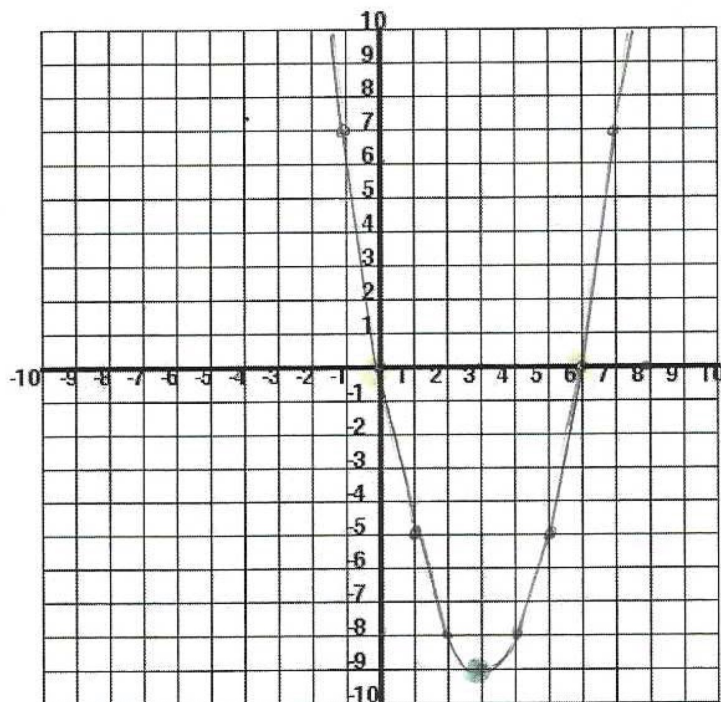
$$x = \frac{-b}{2a}$$

$$x = \frac{-(-6)}{2(1)}$$

$$x = \frac{6}{2}$$

$$x = 3$$

x	y
0	0
1	-5
2	-8
3	-9
4	-8
5	-5
6	0



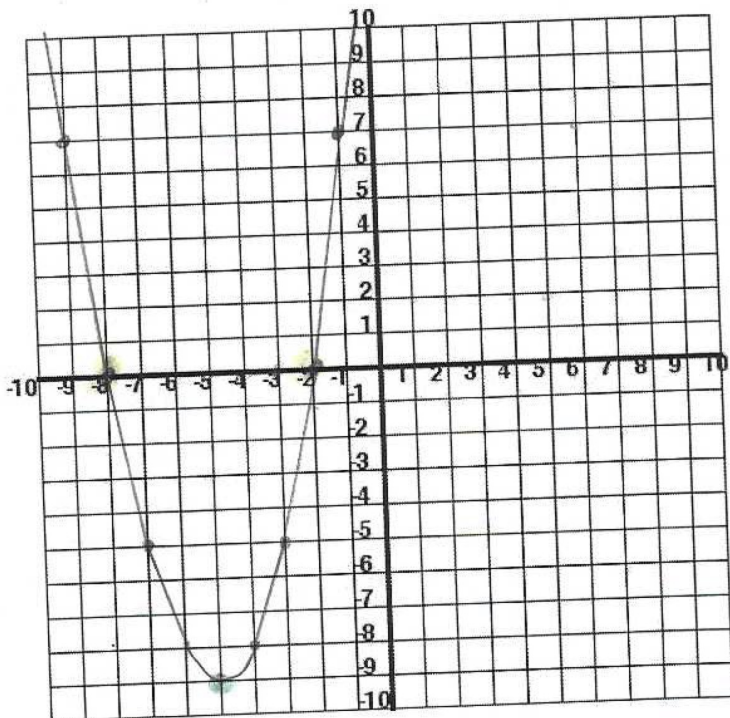
3) $y = x^2 + 10x + 16$ $a=1, b=10, c=16$

$x = \frac{-b}{2a}$

$x = \frac{-10}{2(1)}$

$x = -5$

x	y
-8	0
-7	-5
-6	-8
-5	-9
-4	-8
-3	-5
-2	0



4) $y = x^2 - 6x + 5$ $a=1, b=-6, c=5$

$a=1, b=-6, c=5$

$x = \frac{-b}{2a}$

$x = \frac{-(-6)}{2(1)}$

$x = \frac{6}{2}$

$x = 3$

x	y
0	5
1	0
2	-3
3	-4
4	-3
5	0
6	5

