

A Standard Form: $y = x^2 + 2x - 35$ y-intercept: (0, -35)

Factored Form: $y = (x+7)(x-5)$ x-intercept: $x = -7, 5$

Vertex Form: $y = (x+1)^2 - 36$ Vertex: (-1, -36)

$$\begin{array}{r} x^2 + 2x + 1 \quad -35 \quad -1 \\ \hline (x+1)^2 \quad -36 \end{array}$$

B Standard Form: $y = x^2 + 8x + 15$ y-intercept: (0, 15)

Factored Form: $y = (x+3)(x+5)$ x-intercept: $x = -3, -5$

Vertex Form: $y = (x+4)^2 - 1$ Vertex: (-4, -1)

$$y = (x+4)(x+4) - 1$$

$$y = x^2 + 8x + 16 - 1 \quad y = x^2 + 8x + 15$$

C Standard Form: $y = x^2 - 8x + 16$ y-intercept: (0, 16)

Factored Form: $y = (x-4)(x-4)$ x-intercept: $x = 4$

Vertex Form: $y = (x-4)^2$ Vertex: (4, 0)

3
5
8

D Standard Form: $y = -x^2 + 8x - 15$ y-intercept: $(0, -15)$
 $(-x^2 + 3x)(x + 5) - x(x - 3) + 5(x - 3)$
 Factored Form: $y = (x - 3)(-x + 5)$ x-intercept: $3, 5 = x$
 $x - 3 = 0 \rightarrow x = 3$ $-x + 5 = 0 \rightarrow x = 5$
 Vertex Form: $y = -(x - 4)^2 + 1$ Vertex: $(4, 1)$
 $x^2 - 8x + 16 - x^2 + 8x - 16 + 1 = -x^2 + 8x - 15$

E Standard Form: $y = -x^2 - 6x + 16$ y-intercept: $(0, 16)$
 $-(x^2 + 6x - 16) = -(x - 2)(x + 8)$
 $(-x + 2)(x + 8)$
 Factored Form: $y = (-x + 2)(x + 8)$ x-intercept: $x = -8, 2$
 $-x + 2 = 0 \rightarrow x = 2$ $x + 8 = 0 \rightarrow x = -8$
 Vertex Form: $y = -(x + 3)^2 + 25$ Vertex: $(-3, 25)$

F Standard Form: $y = x^2 - 16$ y-intercept: $(0, -16)$
 Factored Form: $y = (x - 4)(x + 4)$ x-intercept: $x = 4, -4$
 Vertex Form: $y = x^2 - 16$ Vertex: $(0, -16)$
 OR $y = (x - 0)^2 - 16$

17
8

G Standard Form: $y = x^2 - 8x + 17$ y-intercept: $(0, 17)$
 \leftarrow nothing $\frac{8 \pm \sqrt{64 - 4(1)(17)}}{2(1)}$
 Factored Form: $\frac{8 \pm \sqrt{-4}}{2} \leftarrow$ x-intercept: no x-intercepts
 Vertex Form: $y = (x - 4)^2 + 1$ Vertex: $(4, 1)$
 $y = x^2 - 8x + 16 + 17 - 16$
 $(x - 4)^2$

H Standard Form: $x^2 - 8x + 15$ y-intercept: $(0, 15)$

$$\begin{array}{r|l} x & x^2 - 3x \\ -5 & -5x + 15 \\ \hline & \end{array}$$

Factored Form: $y = (x-3)(x-5)$

x-intercept: $x = 3, 5$

Vertex Form: $y = (x-4)^2 - 1$
 $x^2 - 8x + 16 + 15 - 16$

Vertex: $(4, -1)$

I Standard Form: $y = -\frac{1}{2}x^2 + 4x - 7.5$ y-intercept: $(0, -7.5)$
 $-\frac{1}{2} \quad -\frac{1}{2} \quad -\frac{1}{2}$

Factored Form: $y = -\frac{1}{2}(x-3)(x-5)$
 $-\frac{1}{2}(x^2 - 8x + 15)$

x-intercept: $x = 3, 5$

Vertex Form: $y = -\frac{1}{2}(x-4)^2 +$

Vertex: $(4, 0.5)$

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

$$-\frac{1}{2}(4)^2 + 4(4) - 7.5 = -8 + 16 - 7.5 = 0.5 = \frac{1}{2}$$

J Standard Form: $y = x^2$ y-intercept: $(0, 0)$

Factored Form: $y = (x+0)(x+0)$

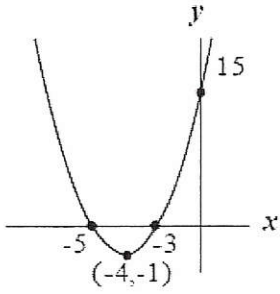
x-intercept: $(0, 0)$

Vertex Form: $y = x^2$

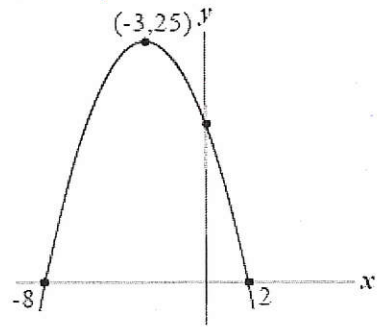
Vertex: $(0, 0)$

Write the letter that matches each graph using the equations on the previous pages.

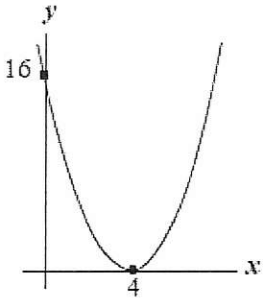
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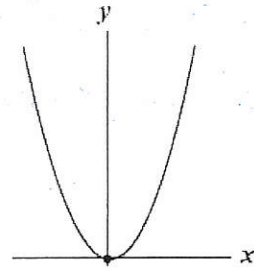
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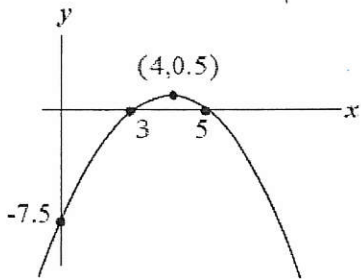
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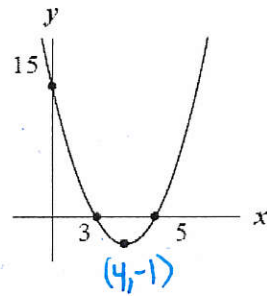
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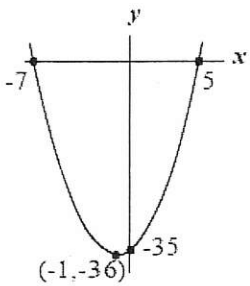
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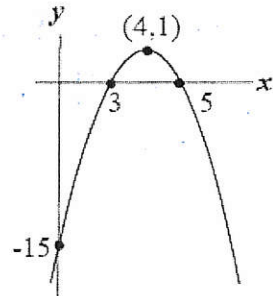
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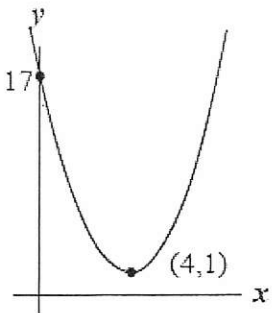
A



D



G



F

