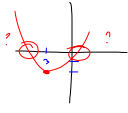


October 19, 2015

$$a(\underline{x-h})^2 + k = 0$$

① Vertex:  $(h, k)$

$$(x+3)^2 - 2$$


Vertex:  $(-3, -2)$  why?

$h = -3$

$$(x - (-3))^2 - 2$$

$$(x + 3)$$

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$$f(x) = x^2 - 5x + 6$$

Convert to Vertex form:

$$\boxed{x^2} - 5x + \boxed{+6} = 0$$

$$x^2 - 5x = -6$$

⊕  $-5 \cdot \frac{1}{2} = -\frac{5}{2}$

⊕  $(-\frac{5}{2})^2 = \frac{25}{4}$  add to both sides

$$x^2 - 5x + \frac{25}{4} = -6 + \frac{25}{4}$$

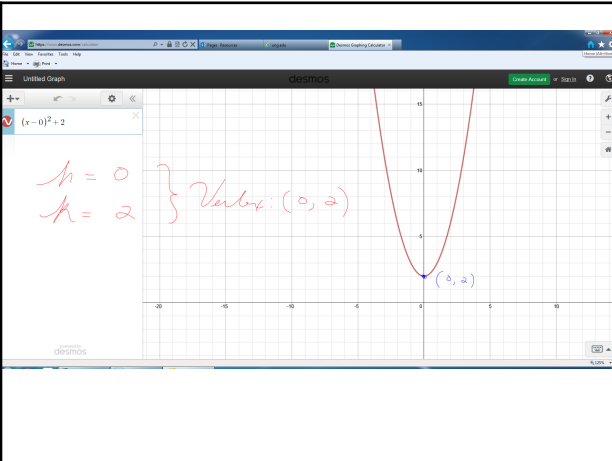
$$(x - \frac{5}{2})^2 = \frac{-24 + 25}{4}$$

$$(x - \frac{5}{2})^2 = \frac{1}{4}$$

$$(x - \frac{5}{2})^2 - \frac{1}{4} = 0$$

Vertex:  $(\frac{5}{2}, -\frac{1}{4})$

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$h = 0$   
 $k = 2$  } Vertex:  $(0, 2)$

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$$x^2 - 11x + 9 = 0$$

↓

$$(x - \frac{11}{2})^2 - \frac{85}{4} = 0$$

Vertex:  $(\frac{11}{2}, -\frac{85}{4})$

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$$\boxed{3}x^2 + 9x + 12 = 0$$

Not sure!

$$\Rightarrow (x^2 + 3x + 4 = 0)$$

$$\Rightarrow [(x^2 + 3x = -4)]$$

⊕  $3 \cdot \frac{1}{2} = \frac{3}{2}$

⊕  $(\frac{3}{2})^2 = \frac{9}{4}$

$$\Rightarrow [(x^2 + 3x + \frac{9}{4} = -4 + \frac{9}{4})]$$

$$(x + \frac{3}{2})^2 = \frac{-16 + 9}{4}$$

$$\Rightarrow [(x + \frac{3}{2})^2 = -\frac{7}{4}]$$

$$\Rightarrow [(x + \frac{3}{2})^2 + \frac{7}{4} = 0]$$

$$\Rightarrow (x + \frac{3}{2})^2 + \frac{7}{4} = 0$$

$$\Rightarrow (x + \frac{3}{2})^2 + \frac{7}{4} = 0$$

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