

Write each equation in vertex form

$$y = x^2 - 8x + 12$$

-12                      -12

$$y - 12 = x^2 - 8x + 16$$

+16

$$y + 4 = (x - 4)^2$$
$$y = (x - 4)^2 - 4$$

$V(4, -4)$

$$y = x^2 - 3x + 5$$

-5                      -5

$$y - 5 = x^2 - 3x + \frac{9}{4}$$

+ $\frac{9}{4}$

$$\left(\frac{3}{2}\right)^2 = \frac{9}{4}$$
$$-5 + \frac{9}{4}$$
$$-\frac{20}{4} + \frac{9}{4} = -\frac{11}{4}$$
$$y - \frac{11}{4} = \left(x - \frac{3}{2}\right)^2$$
$$y = \left(x - \frac{3}{2}\right)^2 + \frac{11}{4}$$

$\left(\frac{3}{2}, \frac{11}{4}\right)$