

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

$$= 2 \left(\underbrace{x^2 - \frac{3}{2}x + \left(\frac{3}{4}\right)^2}_{=0} - \left(\frac{3}{4}\right)^2 + \frac{5}{2} \right)$$
$$= 2 \left(\left(x - \frac{3}{4}\right)^2 + \frac{31}{16} \right)$$

$$y - \frac{31}{8} = 2 \left(x - \frac{3}{4}\right)^2$$