

Algebra 1

$$(ax - 3)^2 - \frac{x}{3} = 7$$

Given $X = 6$

Calculate a

$$(a \cdot 6 - 3)^2 - \frac{6}{3} = 7$$

$$[3(2a - 1)]^2 = 9$$

$$9(2a - 1)^2 = 9$$

$$(2a - 1)^2 = 1$$

$$2a - 1 = \pm 1$$

$a = 0$ Not possible

or

$$2a = 2$$

$$a = 1 \quad X = ?$$

$$(x - 3)^2 - \frac{x}{3} = 7$$

$$x^2 - 6\frac{1}{3}x + 2 = 0$$

$$x_1 x_2 = \frac{c}{a} = \frac{2}{1} = 2$$

$$x = 6$$

$$(6 \cdot \frac{1}{3} = 2), x = \frac{1}{3}$$

$$0 = (x - 6) \cdot (x - \frac{1}{3})$$

$$X = 6$$

$$X = \frac{1}{3}$$