

Answer on Question #62894 – Math – Algebra

Question

Simplify and state the excluded values

$$\frac{3x^2 - 33x + 72}{x - 8}$$

Solution

$$y = \frac{3x^2 - 33x + 72}{x - 8}$$

$$3x^2 - 33x + 72 = 0$$

$$D = 33^2 - 72 \cdot 12 = 225 \Rightarrow \sqrt{D} = \pm 15$$

$$x_1 = \frac{33 - 15}{6} = 3$$

$$x_2 = \frac{33 + 15}{6} = 8$$

$$y = \frac{3x^2 - 33x + 72}{x - 8} = \frac{3(x - 3)(x - 8)}{x - 8} = 3(x - 3) = 3x - 9; x \neq 8.$$

The excluded value is 8.

Answer: $3x - 9; 8$.