Answer on Question #60378 – Math – Algebra

Question

Solve the equation

$$\frac{11}{x-6} = \frac{6}{x-11}.$$

Solution

Using the means-extremes (or cross-products) property of proportions obtain

$$11 \cdot (x - 11) = 6 \cdot (x - 6).$$

Open brackets in both sides and get

$$11x - 121 = 6x - 36.$$

Subtract $6x - 121$ from both sides

$$11x - 6x = 121 - 36.$$

Collect like terms and simplify

$$5x = 85.$$

Divide both sides by 5

$$x = \frac{85}{5}.$$

Finally obtain

$$x = 17.$$

Answer: $x = 17$.