

Answer on Question #54403-Math-Algebra

The following equation has a positive and a negative solution.

$$\left(\frac{v-3}{v-1}\right) = \left(\frac{2}{v+2}\right)$$

Solve the equation and enter the positive solution in the box below (as an integer or rounded to one decimal place as appropriate).

Solution

$$\frac{v-3}{v-1} = \frac{2}{v+2}$$

$$v^2 - v - 6 = 2v - 2$$

$$v^2 - 3v - 4 = 0$$

$$D = (-3)^2 - 4 \cdot (-4) = 25$$

$$v_1 = \frac{3+5}{2} = 4; v_2 = \frac{3-5}{2} = -1.$$

Answer: 4.