Answer on Question #53308 – Math – Algebra

Question

A garden snail moves 1/8 foot in 3/10 minute. What is the garden snail's rate movement in feet per minute?

Solution

We set up the proportion.

1/8 foot -   3/10 minute

x feet   -   1 minute.

Method 1

Using ratios in the form (length)/(time), we will use "x" to stand for the number of feet for which they've asked us then we'll solve for the required feet value:

$$\frac{1/8}{3/10} = \frac{x}{1}$$

Hence, $x = \frac{1/8}{3/10} = \frac{1 \cdot 10}{8 \cdot 3} = \frac{5 \cdot 2}{4 \cdot 2 \cdot 3} = \frac{5}{4 \cdot 3} = \frac{5}{12}$, because we can cross out any factors common to both the numerator and the denominator.

Method 2

To solve the proportion above with cross-multiplication, we would do the following:

$$\frac{1}{8} \cdot 1 = \frac{3}{10} \cdot x \Rightarrow$$

We'll divide through on both sides by $\frac{3}{10}$

$\Rightarrow x = \frac{1/8 \cdot}{3/10} \cdot 1 \Rightarrow x = \frac{1}{8} \cdot \frac{10}{3} = \frac{5 \cdot 2}{4 \cdot 2 \cdot 3} = \frac{5}{4 \cdot 3} = \frac{5}{12}$, because we can cross out any factors common to both the numerator and the denominator.

Answer. 5/12 foot per minute.