Answer on Question #55494 – Math – Algebra

Question
The product of two numbers is 6. One of the numbers is r. Find the other number.

Solution
Let the unknown number be x. It is given that
$$x \times r = 6 \tag{1}$$
If $r \neq 0$, then it follows from (1) that $x = \frac{6}{r}$.

If $r = 0$, then we obtain the contradiction in (1), because

on the one hand,

$x \times 0 = 0$ (according to properties of multiplication by zero),

on the other hand,

$x \times r = 6$ (according to (1)).

Therefore, a solution does not exist in this case.

Answer:

$\frac{6}{r}$, if $r \neq 0$;

no solution, if $r = 0$.