

* Solve $\frac{c^2+1}{c-2} = \frac{5}{c-2}$

Multiply both sides by LCM to eliminate denominators. LCM is $c-2$

$$\left(\frac{c-2}{1}\right) \frac{c^2+1}{c-2} = \frac{5}{c-2} \left(\frac{c-2}{1}\right)$$

$$\frac{c^2+1}{-5} = \frac{5}{-5}$$

$$c^2 - 4 = 0$$

$$(c+2)(c-2) = 0$$

$$c+2=0$$
$$\begin{array}{r} -2 \\ -2 \end{array}$$

$$c-2=0$$
$$\begin{array}{r} +2 \\ +2 \end{array}$$

$$c = -2$$

~~$$c = 2$$~~

check answers (throw out if any denom = 0)

$$\frac{c^2+1}{c-2} = \frac{5}{c-2}$$

if $c=2$ this is undefined
if $c=-2$

$$\frac{-2-2}{-4}$$