

Solve and list the restrictions

$$\frac{3}{k-3} = \frac{3}{(k-2)(k-3)} + 5$$

## Solve and list the restrictions

$$\frac{(k-2)\cancel{(k-3)} \cdot 3}{\cancel{k-3}} = \frac{(k-2)\cancel{(k-3)} \cdot 3}{(k-2)\cancel{(k-3)}} + 5(k-2)(k-3)$$

$$3(k-2) = 3 + 5(k^2 - 5k + 6)$$

$$3k - 6 = \underline{3} + 5k^2 - 25k + \underline{30}$$

$$\cancel{3k} - \cancel{6} = 5k^2 - 25k + 33$$

$$-3k + 6$$

$$-3k + 6$$

$$\begin{array}{r} 195 \\ -15 \times -13 \\ -28 \end{array}$$

$$0 = 5k^2 - 28k + 39$$

$$0 = \underline{5k^2} - \underline{15k} - \underline{13k} + 39$$

$$0 = 5k(k-3) - 13(k-3)$$

$$0 = (k-3)(5k-13)$$

$$k = \cancel{3} \neq \frac{13}{5}$$

Restrictions

$$k-2=0 \quad k-3=0$$

$$k=2 \quad \& \quad k=3$$

$$\boxed{k = \frac{13}{5}}$$

Solve and list the restrictions

$$\frac{v+4}{v+1} = \frac{v+5}{v-1} - 1$$

## Solve and list the restrictions

$$\frac{\cancel{(v+1)}(v-1) \cdot v+4}{\cancel{v+1}} = \frac{v+5}{\cancel{v-1}} - 1 \frac{\cancel{(v+1)}(v-1)}{\cancel{(v+1)}(v-1)}$$

$$(v-1)(v+4) = (v+5)(v+1) - (v+1)(v-1)$$

$$v^2 + 3v - 4 = (v^2 + 6v + 5) - (v^2 - 1)$$

$$v^2 + 3v - 4 = 6v + 6$$

$$\begin{array}{r} -10 \\ -5 \times 2 \\ -3 \end{array}$$

$$v^2 - 3v - 10 = 0$$

$$(v-5)(v+2) = 0$$

$$v = 5 \text{ and } -2$$

Restrictions

$$v+1=0 \quad v-1=0$$

$$v=-1$$

$$v=1$$