## Panel 1

9.3 Solving Rational Equations

$$\frac{3}{x} \diagup \frac{4}{x+2}$$

$$3(x+2) = x \cdot 4$$

$$3x + 6 = 4x$$
$$-3x \qquad -3x$$

$$4 = x$$

## Panel 2

$$\frac{1}{x-4} \diagup \frac{2}{x^2-16}$$

$$x^2 - 16 = 2(x-4)$$

$$x^2 - 16 = 2x - 8$$

$$x^2 - 2x - 8 = 0$$

$$(x-4)(x+2) = 0$$

$$x-4=0 \quad x+2=0$$

$$\boxed{-2} \; \cancel{4}$$

## Panel 3

$$\frac{3}{5} + \frac{4}{x-3} = 7 \qquad \frac{a}{b} = \frac{c}{d}$$
$$-\frac{3}{5} \qquad\qquad -\frac{3}{5}$$

$$\frac{4}{x-3} \diagup \frac{32}{5}$$

$$20 = 32x - 96$$

$$116 = 32x$$

$$3.625 = x$$

## Panel 4

$$\frac{d}{d+2} + \frac{2}{d-2} = \frac{d+6}{(d+2)(d-2)}$$

Common multiples
If all denominators are the same
then the numerators are the same
Find Common denominator

## Panel 5

$$\frac{d}{d+2} + \frac{2}{d-2} = \frac{d+6}{(d-2)(d+2)}$$

$$\textcolor{red}{(d+2)(d-2)}$$
$$\textcolor{green}{(d-2)(d+2)}$$
$$(d+2)(d-2)$$

$$\frac{d(d-2)}{(d+2)(d-2)} + \frac{2(d+2)}{(d+2)(d-2)} = \frac{d+6}{(d+2)(d-2)}$$

$$d(d-2) + 2(d+2) = d+6$$

$$d^2 - 2d + 2d + 4 = d+6$$

$$d^2 - d - 2 = 0$$

$$(d+1)(d-2) = 0$$

$$d = -1, \cancel{2} \qquad d = -1$$

## Panel 6

$$\frac{1}{(x+1)} - \frac{2}{(x+2)} = \frac{3}{2}$$

$$2(x+1)(x+2)$$
$$2(x+2)(x+1)$$
$$2(x+2)(x+1)$$