

Practice Problems for Quiz

$$\textcircled{\text{ex}} \frac{x}{x+4} + \frac{4}{x+4} = 2$$

$$\frac{x+4}{x+4} = \frac{2}{1}$$

$$1 \neq 2$$

no solution

$$\textcircled{\text{ex}} \frac{2x}{4} - 2 = \frac{x}{3} - 1$$

$$\frac{2x}{4} - \frac{2}{1} = \frac{x}{3} - \frac{1}{1}$$

$$\frac{2x}{4} - \frac{8}{4} = \frac{x}{3} - \frac{3}{3}$$

~~$$\frac{2x-8}{4} = \frac{x-3}{3}$$~~

$$3(2x-8) = 4(x-3)$$

$$6x-24 = 4x-12$$

$$6x-4x = 24-12$$

$$2x = 12$$

$$x = 6$$

$$\textcircled{1} 2x-6 = x+1$$

$$2x-x = 1+6$$

$$x = 7$$

$$\textcircled{2} 3x-7 = x+2(x+4)$$

$$3x-7 = x+2x+8$$

$$3x-7 = 3x+8$$

$$3x-3x = 7+8$$

$$0 \neq 15$$

no solution

$$\textcircled{3} 5x-11 = 3x+1+2(x-6)$$

$$5x-11 = 3x+1+2x-12$$

$$5x-11 = 5x-11$$

$$0=0$$

Identity

\mathbb{R}

$$\textcircled{4} \frac{2x}{6} + 3 = \frac{x}{4} + 1$$

$$\frac{2x}{6} + \frac{3}{1} = \frac{x}{4} + \frac{1}{1}$$

$$\frac{2x}{6} + \frac{18}{6} = \frac{x}{4} + \frac{4}{4}$$

$$\frac{2x+18}{6} = \frac{x+4}{4}$$

$$4(2x+18) = 6(x+4)$$

$$8x+72 = 6x+24$$

$$8x-6x = 24-72$$

$$2x = -48$$

$$x = -24$$