

## 8.2 Solving Equations

$$ax + b = c \quad \frac{a}{x} + b = c$$

### Ex 1: 2-Step Equations with Fractions

$$a) 2x + \frac{1}{10} = \frac{36}{50} - \frac{1}{10}$$

$$b) \frac{k}{3} - \frac{1}{2} = -\frac{3}{4}$$

$$2x = \frac{36}{50} - \frac{1}{10} - \frac{1}{10}$$

$$\frac{12}{1} \left[ \frac{k}{3} - \frac{1}{2} = -\frac{7}{4} \right] \frac{12}{12}$$

$$x = \frac{1}{2} \times \frac{1}{2}$$

$$4(k) - 6(1) = 3(-7)$$

$$4k - 6 = -21$$

$$4k = -15$$

$$k = -\frac{15}{4}$$

$$2x + \frac{1}{10} = \frac{3}{5}$$

$$\frac{k}{3} - \frac{1}{2} = -\frac{7}{4}$$

$$\frac{2}{1} \left( \frac{1}{4} \right) + \frac{1}{10} = \frac{3}{5}$$

$$\frac{-15}{4} - \frac{3}{4} - \frac{1}{2} = -\frac{7}{4}$$

$$\frac{5}{10} \frac{12}{4} + \frac{1}{10} = \frac{3}{5}$$

$$\frac{-15}{4} \times \frac{1}{3} - \frac{1}{2} = -\frac{7}{4}$$

$$\frac{6}{10} = \frac{3}{5}$$

$$\frac{-15}{12} - \frac{16}{12} = -\frac{7}{4}$$

$$\frac{3}{5} = \frac{3}{5}$$

$$-\frac{21}{12} = -\frac{7}{4}$$

$$-\frac{7}{4} = -\frac{7}{4}$$

SYK: Fraction Method

$$a) 2y + \frac{1}{2} = \frac{3}{4}$$

Common Denominator

$$b) \frac{n}{2} - \frac{3}{4} = 2\frac{3}{8}$$

### Ex 2: 2-Step Equations with Decimals

$$\frac{a}{2.8} - 2.5 = -3.7$$

$$+ 2.5 \quad + 2.5$$

$$2.8 \times \frac{a}{2.8} = -1.2 \times 2.8$$

$$a = -3.36$$

$$\frac{a}{2.8} - 2.5 = -3.7$$

$$-3.36 - 2.5 = -3.7$$

$$\frac{2.8}{2.8}$$

$$-1.2 - 2.5 = -3.7$$

$$-3.7 = -3.7$$

$$SYK \frac{h}{1.6} + 3.3 = 1.8$$

Ex 3: A phone plan charges 5¢/min with a monthly fee of \$4.95. If your bill is \$18.75, how many minutes did you talk?

$$0.05m + 4.95 = 18.75$$

$$-4.95 \quad -4.95$$

$$\frac{0.05m}{0.05} = \frac{13.8}{0.05}$$

$$m = 276$$

$$0.05(276) + 4.95 = 18.75$$

$$13.8 + 4.95 = 18.75$$

$$18.75 = 18.75$$

SYK: A plan charges 4¢/min plus a monthly fee of \$3.95. If your bill was \$18.75, how long did you talk for?

