

C: Solving Two-Step Equations $\frac{x}{a} + b = c$

Steps

1. Isolate variable by adding/subtracting. [Opposite!!!]
2. Cross multiply to solve for "x".

Remember:

$$\frac{x}{-5} \neq \frac{12}{1}$$

$$x = -60$$

$$\begin{array}{r} x - 8 = 15 \\ + 8 \quad + 8 \end{array}$$

$$x = 23$$

* Now we combine them!

Examples:

1. Solve.

2) $-10 + \frac{g}{-4} = 6$ *isolate*

$$\frac{g}{-4} \neq 16$$

$$g = -64$$

b) $\frac{f}{-10} + 6 = -4$ *isolate*

$$\frac{f}{-10} \neq -10$$

$$f = 100$$

c) $28 = 22 - \frac{x}{6}$ *isolate*

$$6 \neq \frac{-x}{6}$$

$$\frac{36}{-1} = \frac{-x}{1}$$

$$-36 = x$$

d) $-2 = \frac{n}{16} - 8$ *isolate*

$$6 \neq \frac{n}{16}$$

$$96 = n$$

2. Solve then verify your answer.

$$a) 4 + \frac{m}{6} = 36$$

$$-4 \quad -4$$
$$\frac{m}{6} \quad \cancel{32}$$

$$m = 192$$

Verify:

$$4 + \frac{192}{6} = 36 \quad \text{BEDMAS}$$

$$4 + 32 = 36$$
$$36 = 36 \checkmark$$

$$b) \frac{c}{-16} - 16 = -24$$

$$+16 \quad +16$$
$$\frac{c}{-16} \quad \cancel{-8}$$

$$c = 128$$

Verify:

$$\frac{128}{-16} - 16 = -24$$

$$-8 - 16 = -24$$

$$-24 = -24$$

$$c) 30 = -10 + \frac{x}{-12}$$

$$+10 \quad +10$$
$$40 \quad \cancel{x}$$
$$-12$$

$$-480 = x$$

$$30 = -10 + \frac{-480}{-12}$$

$$30 = -10 + 40$$

$$30 = 30$$

Assignment: Pg. 392 # 6-8, 10, 11, 12.
(Just Solve normally)