Curriculum Outcomes:

PR1: . Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution.

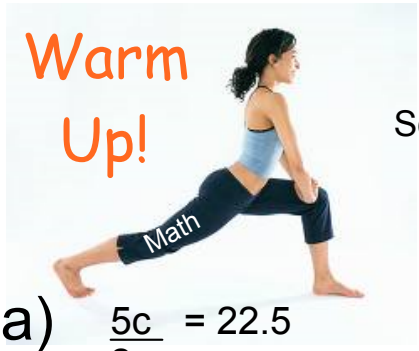
PR3. Model and solve problems using linear equations of the form:

$ax = b;$ = b , a ≠ 0; $ax + b = c$; $+b = c,$ a ≠ 0; = b, $x \neq 0$ ax ax xa

$ax + b = cx + d$; $a(bx + c) = d(ex + f)$; $a(x + b) = c$; ax = b+cx **concretely, pictorially and symbolically, where** $a, b, c, d, e,$ *and* f **are rational numbers**

Student Friendly:

"Rearranging an equation with variables on both side of the equal sign"



Solve for x using inverse operations

a) $\frac{5c}{2} = 22.5$

b) $\frac{x}{4} + 3 = \frac{5}{6}$

c) $5x + 4 = 29$

d) $3(2x-1) = -5$

e) $5 - 3x = 7$

f) $2 - \frac{x}{4} = 3$

Solve for x using inverse operations

4x1=4
4x2=8
4x3=12

6x1=6
6x2=12

a) $\frac{5c}{2} = 22.5$

(2) (2)

$\frac{5c}{5} = \frac{45}{5}$

$c = 9$

b) $\frac{x}{4} + 3 = \frac{5}{6}$

(12) (12) (12)

$12x + 36 = 60$

$-36 \quad -36$

$3x = -26$

$\frac{3x}{3} = \frac{-26}{3}$

$x = -\frac{26}{3}$

c) $5x + 4 = 29$

$-4 \quad -4$

$\frac{5x}{5} = \frac{25}{5}$

$x = 5$

d) $3(2x-1) = -5$

$6x - 3 = -5$

$+3 \quad +3$

$\frac{6x}{6} = \frac{-2}{6}$

$x = \frac{-2}{6}$

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

e) $5 - 3x = 7$

$-5 \quad -5$

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

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

f) $2 - \frac{x}{4} = 3$

$(4) \quad (4) \quad (4)$

$-8 \quad -8$

$8 - x = 12 - 8$

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

$x = -4$

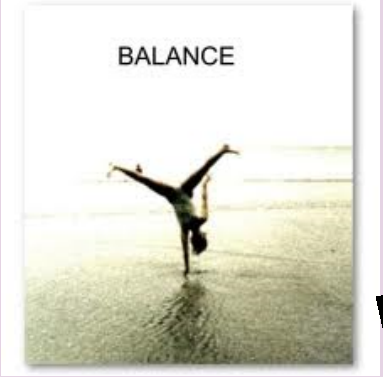
f) $2 - x = 3$

$-2 \quad -2$

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

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

$x = -4$



Section 6.2

Solving Equations ...

Your mission
is to keep
everything
in balance!!

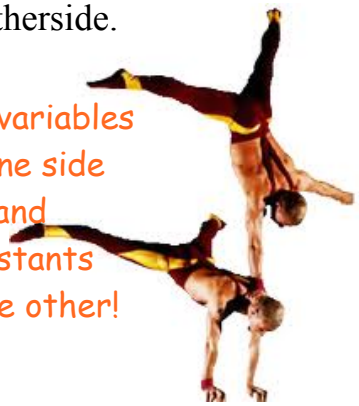
What ever you do to one side...
you must do to the other!!

Solve for x...

$$6x + 2 = 10 + 4x$$
$$-4x \qquad -4x$$
$$-2 \qquad -2$$
$$6x - 4x = 10 - 2$$
$$\frac{2x}{2} = \frac{8}{2}$$
$$x = 4$$

The only difference from last section is that numbers and letters appear on both sides and you have to bring all letters to one side and all numbers to the otherside.

Move variables to one side and constants to the other!



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

$+3c$ $+3c$

$7 + 8 = 5c - 8 + 8$

$\frac{15}{5} = \frac{5c}{5}$

$c = 3$

$5a - 8 = 16 - 3a$

$+3a \quad +3a$

$8a - 8 = 16$

$+8 \quad +8$

$\frac{8a}{8} = \frac{24}{8}$

$a = 3$

$\geq \quad \leq \quad > \quad <$

$$\frac{2a}{3}^{(15)} = \frac{4a}{5}^{(15)} + 7^{(15)}$$

multiply by the lowest common multiple

$$\frac{30a}{3} = \frac{60a}{5} + 105$$

$$\boxed{10a} \overset{-10a}{=} \boxed{12a} \overset{-10a}{} + 105$$

$$0 \overset{-105}{=} \boxed{2a} + 105 \overset{-105}{}$$

$$\frac{-105}{2} = \frac{2a}{2}$$

$$\boxed{a = -52.5}$$

$\frac{122}{r} = 3$ (r)

$\frac{122}{3} = \frac{3r}{3}$

$r = \frac{122}{3}$ or $40\frac{2}{3}$

Class/Homework

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Show all work. Don't worry about identifying which strategy you used.

6 ← Don't use algebra tiles

8

#10

Class/Homework

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Show all work. Don't worry about identifying which strategy you used.

6

Do not use algebra tiles