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:

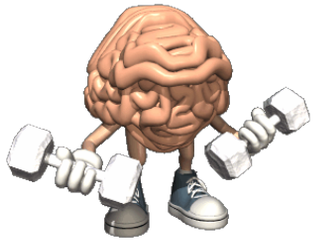
***ax* = *b;* = b , a ≠ 0; *ax* + *b* = *c*; +*b* = *c,* a ≠ 0; = *b*, *x* ≠ 0 ax ax xa**

ax*+ *b* = *cx* + *d; a(bx* + *c)* = *d(ex* + *f); a(x* + *b)* = *c; ax* = b+*cx

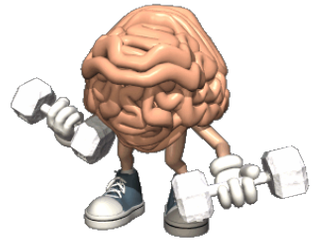
concretely, pictorially and symbolically, where *a*, *b*, *c, d, e, and f* are rational numbers

Student Friendly:

"Solving for an unknown variable using opposite operations"



Warm Up

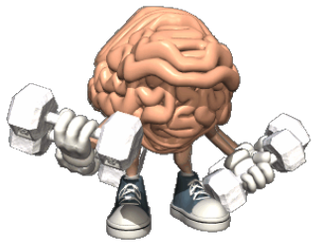


DETERMINE THE VALUE OF EACH LETTER:

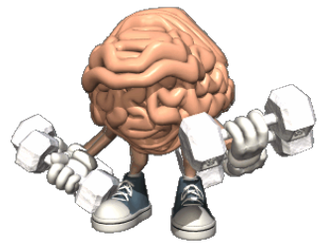
$$P + X - Y = 19$$

$$P - X = 8$$

$$X - Y = 7$$



Warm Up



DETERMINE THE VALUE OF EACH LETTER:

$P + 7 = 19$

$P + X - Y = 19$

$P = 12$

$12 - X = 8$

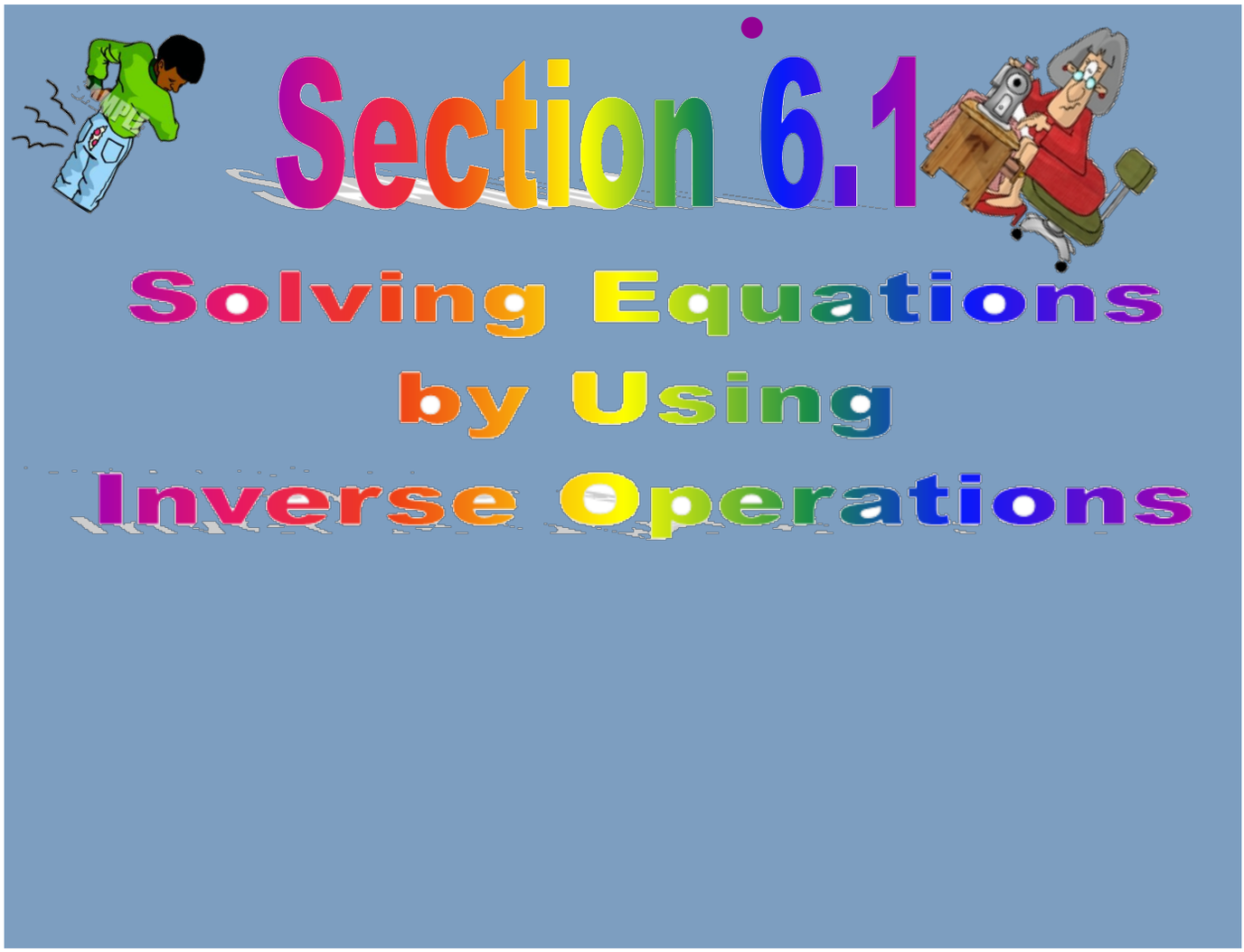
$P - X = 8$

$X = 4$

$y = -3$

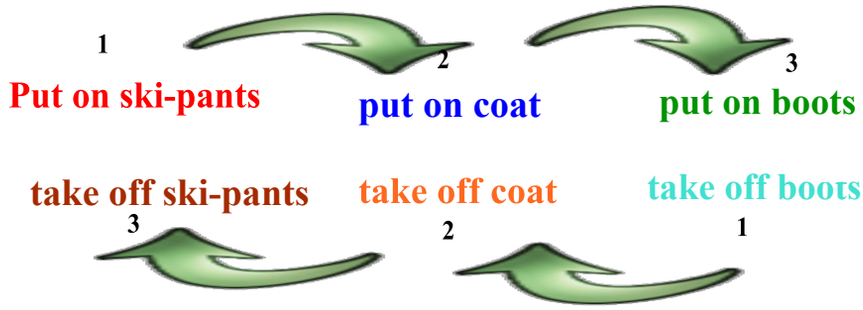
$4 - (3) = 7$

$X - Y = 7$


Section 6.1
Solving Equations
by Using
Inverse Operations

Tim is 3 and he is getting ready to go play in the snow.
When he gets ready he follows the same process each day.

When he goes inside he does eveything in reverse.
What is that process?



Inverse operations: is to do the opposite
(undo or reverse each other's result)

Addition and subtraction are inverse operations

+ -

Multiplication and division are inverse operations

x ÷

Let's think

You have to show work!

Algebraic Solution

Start with x....(What operations is applied to x?)

$$x + 5 = 8$$
$$-5 \quad -5$$

$$x = 3$$

undo the addition
subtract each side by 5

$$x - 6 = -1$$

$+6 \quad +6$

$$x = 5$$

$$\frac{b}{5} = 11.3 \quad (\times 5)$$

$$b = 56.5$$

$$3x - 5 = 15$$

$$\boxed{x} - 6 = -1$$

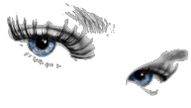
$+6 \quad +6$

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

$$x - 0 = 5$$

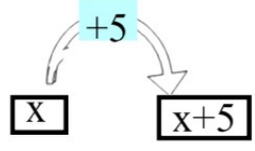
$$x = 5$$

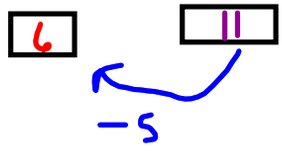
Build the equation



X+5=11

Inverse Operation

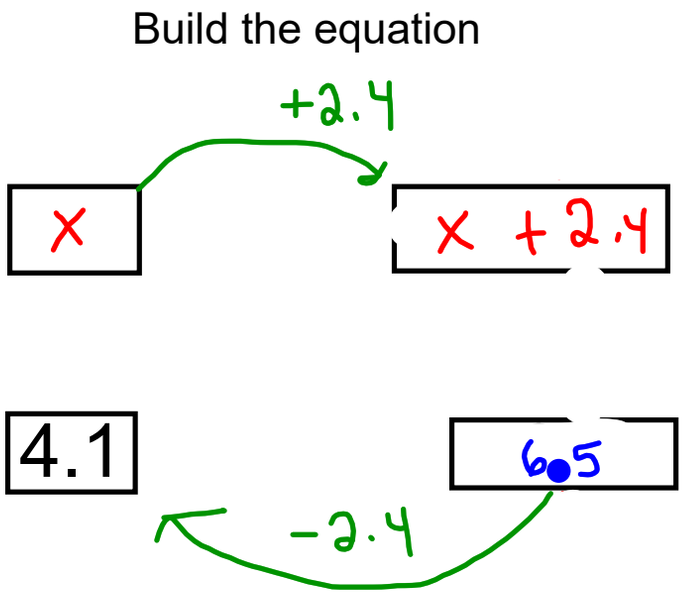




In the textbook they do Build Equations, Solve Equations

For example:

$x + 2.4 = 6.5$



In the textbook they do Build Equations, Solve Equations

For example:

3n - 4 = 11