Chapter 2 sec 6
Solving equation – integers

Warm up:

1) $11-2\bullet3+12\bullet4^2$ 2) -45 ÷ 15   3) $\dfrac{22578}{53}$

What does the answer to an equation look like?
Variable = number

Is -6 a solution to the equation 2x + 5 = -7?

Solve the equation:
x + 3 = -7   x + 5 = 3   x + 9 = 12

What did you do to solve the equation?

x – 8 = 11   x – 2 = 7   x – 3 = -8

what did you do to solve the equation?

Simplify first

- 8 + 2 = y – 11(-4)   y + 2(-4) = - 8 + 6

 3x = 30   -4x = 28   2x = 12

What did you do to solve the equation?

Vocabulary:

coefficient variable +- constant = number

How do you write $\dfrac{x}{2}$ with a coefficient?

$\dfrac{x}{2}=20$ $\dfrac{x}{3}=-11$ $\dfrac{x}{4}=7$

If you add or subtract the same amount from both sides of an equation, it produces an equivalent equation.

If you multiply or divide the same amount from both sides of an equation, it produces an equivalent equation.

Solving an equation is like unwrapping a gift.

Wrap a gift	unwrap
gift paper	bow
tape	tape
bow	gift paper

Foot
sock
shoe

machine	undo
x	2x + 3
Mult by 2	sub 3
add 3	divide by 2
2x + 3	x
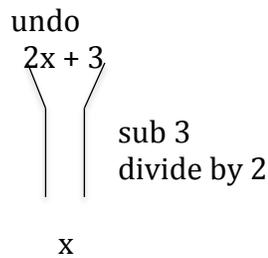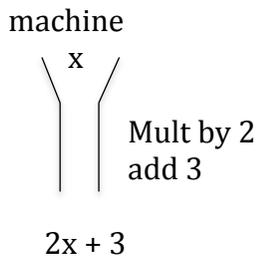
Example

7 into the first machine	17
$7 \cdot 2$	$17 - 3$
$7 \cdot 2 + 3$	$\dfrac{17-3}{2}$
17	7

$2x + 3 = 7$

Order of operation: multiply by 2 then add 3

Solve an equation: undo each operation
sub 3 then divide by 2

Practice:

1) x + 3 = -7

2) x – 8 = - 11

3) – 8 + 2 = y – 11(-4)

4) y + 2(-4)= -8 + 6

5) -3x = 30

6) -4x = - 28

7) $\dfrac{x}{-2} = -20$

8) $\dfrac{x}{3} = -11$

9) 2x + 3 = 7

10) $-12 + 3 = -8 + 4 + \dfrac{p}{-3}$

11) $\dfrac{x}{-2} - 9 = -8 + 3$

12) Three more than twice a certain number is -11. Fin the unknown number.