2n

(2)n + 1

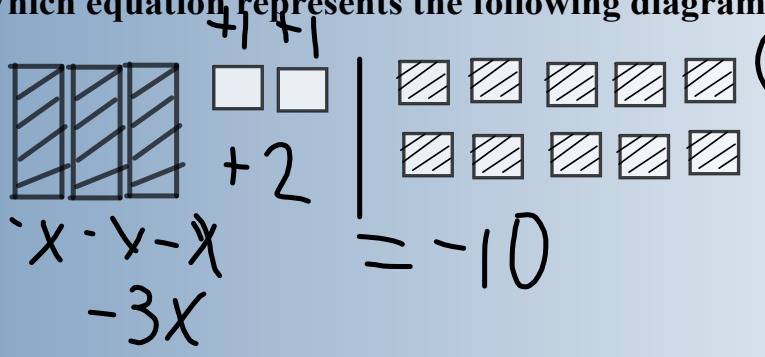
Warm Up

equals

1) What equation represents " Double a number increased by 1 is 9"?

a) 2n +1= 9 b) 2n= 9 c) 1+ 9n +9 d) 2n -1 = 9

2) Which equation represents the following diagram?



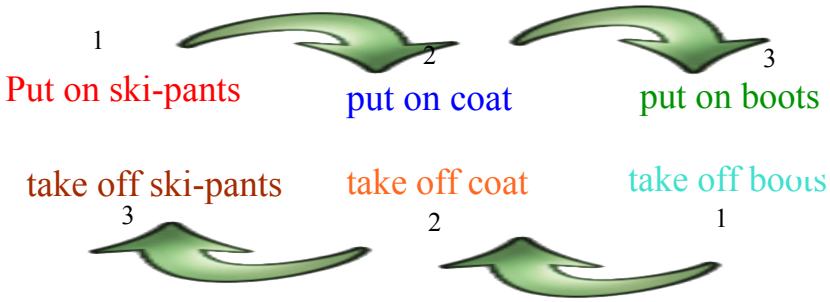
a) -3x + 2 = -10
b) 4x + 8
c) -3x +2 + 10
d) -3x - 2 = -10

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

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

Let's think

You have to show work!

Algebraic Solution

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

$$x + 5 = 8$$

undo the addition
subtract each side by 5

$$x + 5 - 5 = 8 - 5$$

$$x = 3$$

Build the equation

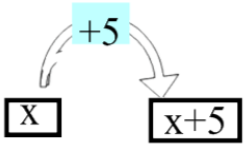
Inverse Operation

How did I get from 3 to 8?

3 8

Build the equation

Inverse Operation



Solving One-Step Equations

Write and solve an equation to determine each number.

a) 5 times a number is 16

Let x be the number

$5x = 16$

$\frac{5x}{5} = \frac{16}{5}$

$x = 3.2$

b) A number divide by 7 is 4.5

Let k be the number

$\frac{k}{7} = 4.5$

$(7)\frac{k}{7} = 4.5(7)$

$k = 31.5$

The Two-Step Equation

$2x + 3 = 14$

You will be expected to show work using the algebraic method.

$2x + 3 - 3 = 14 - 3$

$\frac{2x}{2} = \frac{11}{2}$

$x = 5.5$

Always verify your work

Verify just means check

How?????

Sub your answer into the left hand side of your equation and see it it equals the right hand side

BEDMAS

sub x = 5.5 into the LHS

LHS		RHS
$2x + 3$	$=$	14
$2(5.5) + 3$		
$11 + 3$		
14		

LHS = RHS so we are right

You try

1) $-2w + 6 = -30.8$

$-2w + 6 - 6 = -30.8 - 6$

$\frac{-2w}{-2} = \frac{-36.8}{-2}$

$w = 18.4$

2) $\frac{b}{-5} - 7 = 15.8$

$\frac{b}{-5} - 7 + 7 = 15.8 + 7$

$(-5)\frac{b}{-5} = 22.8(-5)$

$b = -114$

3) $7 = \frac{n}{4} - 15.6$

$7 + 15.6 = \frac{n}{4} - 15.6 + 15.6$

$(4)\ 22.6 = \frac{n}{4}(4)$

$90.4 = n$

$n = 90.4$