6.1

Tuesday, March 29, 2016 8:11 AM

Math 9 **Name**_____ _____

Solving Equations by Using Inverse Operations

Lesson 6.1

Solving One Step Equations

To solve an equation the variable must be isolated. We can use inverse operation which reverse or 'undo' the results. Whatever change is made to one side of an equation, the same change must be made to the other side.

Ex.1

a) $x + 4 = 10$

$-4 \quad -4$

$x = 6$

b) $z - 3 = 23$

$+3 \quad +3$

$z = 26$

c) $\frac{y}{4} = -8$

$\times 4 \quad \times 4$

$y = -32$

d) $3x = 21$

$\frac{3x}{3} = \frac{21}{3}$

$x = 7$

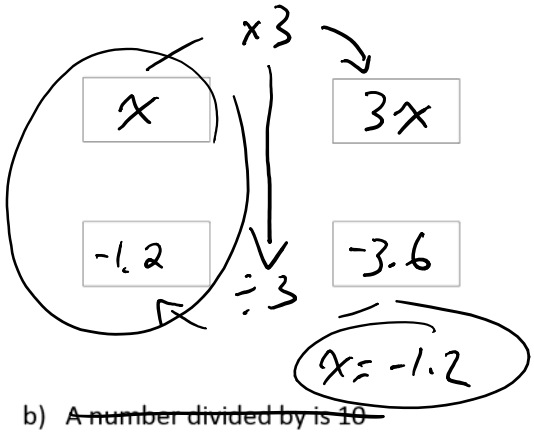
Ex. 2 – one step word problem using a diagram and algebraically. Verify your solution

a) Three times a number is -3.6

① let x = the number

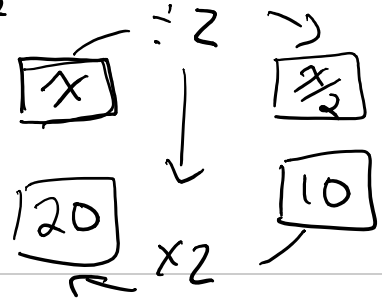
$\frac{3x}{3} = \frac{-3.6}{3}$

$x = -1.2$



b) ~~A number divided by is 10~~ A number divided by 2 is 10

$\frac{x}{2} = 10$



$x = 20$

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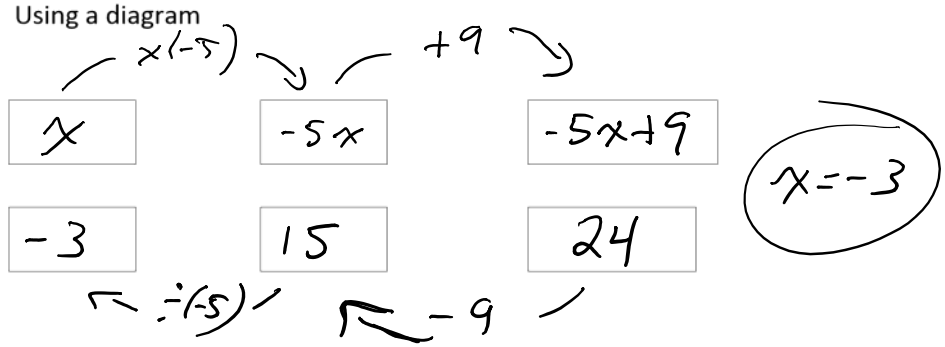
Solving two or multi-step Equations

These equations will require more than one step to isolate the variable. Isolate the term with the variable first before you solve.

Ex. 1

a) $-5x + 9 = 24$

Using a diagram



Algebraically

$-5x+9=24$
$-9\ \ -9$
$\frac{-5x}{-5} = \frac{15}{-5}$
$x=-3$

Please show your steps.

Ex. 2

a) $0 = 7p - 35$
$+35\ \ +35$
$\frac{35}{7} = \frac{7p}{7}$
$5=p$
$p=5$

b) $-1 = -7 - 0.3t$
$+7\ \ +7$
$10 \times 6 = -0.3t \times 10$
$\frac{60}{-3} = \frac{-3t}{-3}$
$-20=t$

c) $9p - 2 = 6$
$+2\ \ +2$
$\frac{9p}{9} = \frac{8}{9}$
$p=\frac{8}{9}$
exact form!

d) $\frac{r}{4} + 3 = 8$
$-3\ \ -3$
$4 \times \frac{r}{4} = 5 \times 4$
$r=20$

e.) $3(x-4)=-6$
$3x-12=-6$
$+12\ \ +12$

$\frac{3(x-4)}{3} = \frac{-6}{3}$
$x-4=-2$

$3x - 12 = 6$
$+12 \quad +12$
$\frac{3x}{3} = \frac{6}{3}$
$x = 2$

$\frac{x-4}{3} = \frac{-2}{3}$
$+4 \quad +4$
$x = 2$

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Assignment: p. 271 #5ace, 6ac, 8-10, 17, 18bd

Bonus worksheets when you're finished!