

Please have your homework on your desk. Calculator? Yes!

DATE:

TSW solve one & two step equations.

QRQ1

1 Simplify $12 \div 4 + 6^2 - 18 \div 3$

$$33$$

2 Evaluate $-m^2 - n^2$ when $m = -6$ and $n = -2$

$$\begin{aligned} & -(-6)^2 - (-2)^2 \\ & -(36) - (4) \\ & -36 - 4 \\ & -40 \end{aligned}$$

3 Simplify $3(x-4) + 6(x+1)$

$$\begin{aligned} & 3x - 12 + 6x + 6 \\ & 9x - 6 \end{aligned}$$

4 Justify each step with the correct property

$$7(x-1) - 5x$$

Given

$$7x - 7 - 5x$$

Distributive

$$7x - 5x - 7$$

Commutative

$$(7x - 5x) - 7$$

Associative

$$2x - 7$$

Substitution

After Test Assignment:

Ex 1 Translate and Solve.

a.) a number plus two equals twelve

answer: $n + 2 = 12$

$$\underline{n = 10}$$

Now You Try These!

1 Translate and Solve

a.) the sum of a number and 3 equals 5

$$\begin{aligned} n + 3 &= 5 \\ -3 & \quad -3 \\ \hline n &= 2 \end{aligned}$$

b.) a number decreased by 5 is seven

answer: $n - 5 = 7$

$$\underline{n = 12}$$

b.) the difference of a number and seven is thirteen

$$\begin{aligned} x - 7 &= 13 \\ +7 & \quad +7 \\ \hline x &= 20 \end{aligned}$$

c.) one-half a number equals four

answer: $\frac{1}{2}n = 4$

$$\frac{1n}{2} = \frac{4}{1}$$

$$n = 8$$

c.) one-fourth a number equals nine

$$\begin{aligned} \frac{1}{4}n &= 9 \\ \frac{1n}{4} &= \frac{9}{1} \\ n &= 36 \end{aligned}$$

d.) one-third a number is six

answer: $\frac{1}{3}n = 6$

$$\frac{1n}{3} = \frac{6}{1}$$

$$n = 18$$

d.) one-fifth a number equals 11

$$\begin{aligned} \frac{1}{5}n &= 11 \\ \frac{1n}{5} &= \frac{11}{1} \\ n &= 55 \end{aligned}$$

Ex 2 Solve each equation.

$$\begin{array}{r} \text{a.) } 22 = m - 10 \\ +10 \quad +10 \\ \hline 32 = m \end{array}$$

2 Solve each equation. Show your steps.

$$\begin{array}{r} \text{a.) } 75 = x - 4 \\ +4 \quad +4 \\ \hline 79 = x \end{array}$$

$$\begin{array}{r} \text{b.) } -50 = 11 + y \\ -11 \quad -11 \\ \hline -61 = y \end{array}$$

$$\begin{array}{r} \text{b.) } -18 = 20 + m \\ -20 \quad -20 \\ \hline -38 = m \end{array}$$

$$\begin{array}{r} \text{c.) } z - 15 = -3 \\ +15 \quad +15 \\ \hline z = 12 \end{array}$$

$$\begin{array}{r} \text{c.) } b - 30 = -7 \\ +30 \quad +30 \\ \hline b = 23 \end{array}$$

$$\begin{array}{r} \text{d.) } b - (-23) = 30 \\ b + 23 = 30 \\ -23 \quad -23 \\ \hline b = 7 \end{array}$$

$$\begin{array}{r} \text{d.) } t - (-9) = 21 \\ t + 9 = 21 \\ -9 \quad -9 \\ \hline t = 12 \end{array}$$

e.) $20 - (-p) = 100$

$$\begin{array}{r} 20 + p = 100 \\ -20 \quad -20 \\ \hline p = 80 \end{array}$$

$$\begin{array}{r} \text{e.) } 13 - (-g) = 42 \\ 13 + g = 42 \\ -13 \quad -13 \\ \hline g = 29 \end{array}$$

$$\begin{array}{r} \text{f.) } -18 = -6 + d \\ +6 \quad +6 \\ \hline -12 = d \end{array}$$

$$\begin{array}{r} \text{f.) } -31 = -4 + s \\ +4 \quad +4 \\ \hline -27 = s \end{array}$$

Ex 3 Solve each equation. 3 Solve each equation.

a.) $\frac{1}{4}a = -2$

$$\frac{1a}{4} = \frac{-2}{1}$$

$a = -8$

a.) $\frac{1}{7}b = -5$

$$\frac{1b}{7} = \frac{-5}{1}$$

$b = -35$

Questions?

What is an equation?

When we add the opposite of a number, what property are we using?

What is a variable?

What does it mean to solve?

How can you check your answers?

Notes:

Ex 1 Translate and Solve.

a.) the product of two and a number plus four is ten

answer: $2n + 4 = 10$

$$\frac{-4}{2} \quad \frac{-4}{2}$$

$$\frac{2n}{2} = \frac{6}{2}$$

$n = 3$

Now You Try These!

#1 Translate & Solve

a.) the product of three and a number plus five is twenty-three

$$3n + 5 = 23$$

$$\frac{-5}{3} \quad \frac{-5}{3}$$

$$\frac{3n}{3} = \frac{18}{3}$$

$n = 6$

a.) three times the sum of a number plus one equals twenty-four

answer: $3(x + 1) = 24$

$$3x + 3 = 24$$

$$\frac{-3}{3} \quad \frac{-3}{3}$$

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

$x = 7$

b.) four times the sum of a number plus two equals twenty

$$4(x + 2) = 20$$

$$4x + 8 = 20$$

$$\frac{-8}{4} \quad \frac{-8}{4}$$

$$\frac{4x}{4} = \frac{12}{4}$$

$x = 3$

Ex 2 Solve each equation.

a.) $4x - 8 = -8$

$$\frac{+8}{4} \quad \frac{+8}{4}$$

$$\frac{4x}{4} = \frac{0}{4}$$

$x = 0$

b.) $-5x + 1 = -44$

$$\frac{-1}{-5} \quad \frac{-1}{-5}$$

$$\frac{-5x}{-5} = \frac{-45}{-5}$$

$x = 9$

#2 Solve each equation. Show your steps.

a.) $5x - 9 = -1$

$$\frac{+9}{5} \quad \frac{+9}{5}$$

$$\frac{5x}{5} = \frac{8}{5}$$

$x = 1.6$ or $\frac{8}{5}$

b.) $-6x + 2 = 44$

$$\frac{-2}{-6} \quad \frac{-2}{-6}$$

$$\frac{-6x}{-6} = \frac{42}{-6}$$

$x = -7$

c.) $-22 = -3b + 5$
 $\frac{-27}{-3} = \frac{-3b}{-3}$
 $9 = b$
 If $b = 9$

d.) $3 = \frac{b}{2} + 1$
 $\frac{-1}{-1} = \frac{-1}{-1}$
 $2 = \frac{b}{2}$

$\frac{2}{1} = \frac{b}{2}$
 If $4 = b$
 then $b = 4$

Symmetric

c.) $-33 = -4m + 3$
 $\frac{-36}{-4} = \frac{-4m}{-4}$
 $9 = m$
 then $m = 9$

d.) $9 = \frac{k}{4} - 6$
 $\frac{15}{1} = \frac{k}{4}$
 $60 = k$
 then $k = 60$

e.) $-5 + \frac{m}{3} = -2$
 $\frac{m}{3} = 3$
 $\frac{m}{3} = \frac{9}{1}$
 $m = 9$

f.) $\frac{x+1}{4} = 8$
 $\frac{x+1}{4} = \frac{8}{1}$ $1(x+1)$
 $x+1 = 32$
 $x = 31$

e.) $-8 + \frac{t}{5} = -3$
 $\frac{t}{5} = 5$
 $t = 25$

f.) $\frac{x+2}{6} = 3$
 $\frac{x+2}{6} = \frac{3}{1}$
 $x+2 = 18$
 $x = 16$

g.) $-8 = -4(9+x)$
 $-8 = -36 - 4x$
 $28 = -4x$
 $-7 = x$

g.) $21 = -7(2+x)$
 $21 = -14 - 7x$
 $35 = -7x$
 $-5 = x$
 then $x = -5$

h.) $-2 = \frac{c-3}{-4}$
 $8 = c-3$
 $11 = c$
 then $c = 11$

h.) $-4 = \frac{p-3}{-7}$
 $28 = p-3$
 $31 = p$
 then $p = 31$