Warm Up

10/3/18

Solve:

1. $9x - 1(3x + 7) = 17$

$9x - 3x - 7 = 17$

$6x - 7 = 17$

$+7 \quad +7$

$6x = 24$

$\frac{6x}{6} = \frac{24}{6}$

$x = 4$

2. $-3x + 17 - 5x = 2(4x - 9)$

$-8x + 17 = 8x - 18$

$-8x \quad -8x$

$-16x + 17 = -18$

$-17 \quad -17$

$\frac{-16x}{-16} = \frac{-35}{-16}$

$x = \frac{35}{16}$

3. $6x - 10x + 16 = 2(-2x + 6) + 4$

$-4x + 16 = -4x + 12 + 4$

$-4x + 16 = -4x + 16$

$+4x \quad +4x$

$16 = 16$

∞

Equation

Word Problems

Equation Word Problems

1. Define the variable

2. Write an equation

3. Solve the equation

4. Check your solution

TEST AVERAGE Questions

1. Find the sum of the current grades

2. Add the unknown grade to the sum

3. Set the answer from #2 divided by the number of tests equal to the desired average

4. Solve

Example to COPY DOWN

Sally wants a test average of 93 in class. If she scored an 82, 83, 97, and 85 on her first four test. What must she score on the fifth test to accomplish her goal?

$x = 5^{th}$ test score

$82+83+97+85$

$$(5)\ \frac{347+x}{5} = 93\ (5)$$

$$347+x=465$$

$$-347 \quad -347$$

$$x=118$$

118%

Example to COPY DOWN

Sally wants a test average of 80 in class. If she scored an 93, 64, and 79 on her first three tests. What must she score on the fourth test to accomplish her goal?

$x = 4^{th}$ test Score

$93 + 64 + 79$

$$(4)\frac{236 + x}{4} = 80(4)$$

$$236 + x = 320$$

$$-236 \quad -236$$

$$x = 84$$

84%

Example to COPY DOWN

mult. variable =

One sixth of a number is seventy two. Find the number.

$\left(\frac{6}{1}\right)\frac{1}{6}x = 72\left(\frac{6}{1}\right)$ $\frac{x}{6} = 72$

$x = 432$

Example to COPY DOWN

Turn Around — variable — Mult.

If 10 less than a number is multiplied by 3, the result is equal to 2 times the number. What is the number?

Mult.

$$3(x-10)=2x$$

$$3x-30=2x$$

$$+30 \quad +30$$

$$3x=2x+30$$

$$-2x \quad -2x$$

$$x=30$$

Example from Worksheet 710

mult. variable =

Three fourths of a number is 36 What is the number?

$$\left(\frac{4}{3}\right)\frac{3}{4}x = \frac{36}{1}\left(\frac{4}{3}\right)$$

$$x = 48$$

Example from Worksheet 720

Quanisha's father is four times as old as Quanisha, and the sum of their ages is 50 years. How old is each?

X = Q's age

$4X$ = Q's father's age

$X + 4X = 50$

$\frac{5X}{5} = \frac{50}{5}$

$X = 10$

10 yrs. old

40 yrs. old

Example from Worksheet 720

Deidra and Shelby inherited an estate of $3,000. Deidra is to receive two times as much as Shelby. How much does each receive?

X = Shelby's $ $1,000

2X = Deidra's $ $2,000

$X + 2X = 3000$

$\frac{3X}{3} = \frac{3000}{3}$

$X = 1,000$