UNIT 2: Solving Equations

2.10 Properties Review

 Match each property with the equation that illustrates it. Write the name of the property in the next to the appropriate equation.

List of properties:
Associative property of addition
Additive identity
Associative property of multiplication
Additive Inverse
Commutative Property of Addition
Commutative Property of Multiplication
Multiplicative Identity
Multiplicative Inverse
Zero Property
Distributive Property

a. x*1=x Multiplicative Identity

b. m+n=n+m Commutative Property of Addition

c. (q+r)+s=q+(r+s) Associative Property of Addition

d. 739+0=739 Additive before Identity

e. p+(-p)=0 Additive Inverse

f. 1=1/x*x Multiplicative Inverse

g. 3(y+6)=3y+18 Distributive Property

h. n*m=m*n Commutative Property

Associative Property

i. 2*(7*7)=(2*7)*7 Associative Property of Multiplication

j. a*0=0 Zero Property

2. Describe the difference between the Multiplicative Inverse Property and the Multiplicative Identity
Property. The multiplicative inverse property always results in

1 whereas the multiplicative identity always results
in the # you started with.

3. Describe the difference between the Additive Inverse and the Zero Property.

The zero property says that any # multiplied by zero gives you zero.

In case of Additive Inverse, a # plus its additive inverse also results in zero, but the path to zero is different from

Solving Equations Review 1

Solve each equation.

1)
$$-63 = -9 - 6n$$

 $+9 +9$
 $-54 = -6n$
 $-6 = -6$
 $9 = n$
3) $3 = 4 + \frac{a}{14}$
 $-4 - 4$

$$5) -3k + 4(1 - 4k) = 42$$

$$-3K+4-16K=42$$

$$-19K+4=42$$

$$-4$$

$$-19K=38$$

$$-19k = 38$$

$$k = -2$$
7) $-4(4+2k) = 4(k+5)$

$$-16 = 12K + 20$$

$$-20 -20$$

$$-36 = 12K - 7(K = -3)$$

$$9) \underbrace{\frac{5}{2}}_{k+2} \underbrace{\frac{k+2}{8}}_{8}$$

$$2) = 5 = 3 + m$$

$$2) = 2$$

$$-10 = 3 + m$$

4)
$$-3(-3n-4) = 48$$

$$9n+12=48$$
 -12 -12
 $9n=36$
 $n=4$

6)
$$7(1+p)-5(p-6)=p+1+4p$$

$$7+7p-5p+30 = p+4p+1$$

$$2p+37 = 5p+1$$

$$-2p -2p$$

$$37 = 3p+1$$

$$-1$$

$$8)\frac{10}{8} = p$$

$$36 = 3p - 9$$

8)
$$\frac{10}{8} = p$$
 $\frac{10}{8} = p$ $\frac{10}{36} = 3p$ $p = 12$

$$p = \frac{32}{10} = \frac{16}{5}$$

$$10) - \frac{2}{n-9} = -\frac{3}{n}$$

$$\frac{2}{n-9} = -\frac{3}{n}$$

$$\frac{2}{n-9} = -\frac{3}{n}$$
regatives
in numericator

$$-2n = -3(n-4)$$

$$-2n = -3(n-9)$$

$$-2n = -3n+27$$

$$+3n +3n$$

2.10 Modeling 1 Review



- 1. Mr. Rodriguez spent \$170 at the mall. He bought one pair of shoes for \$80 and three nice shirts. If each shirt cost the same amount, how much did each shirt cost?
- a. Define your variable. C = how much each shirt cost
- b. Write an equation that describes this situation.

Solve your equation and answer the question in a full sentence.

$$170 = 80 + 3c$$

 $-80 - 80$
 $90 = 3c$
 $c = 30$ Each shirt costs \$ 30.

- The sum of four consecutive integers is 42. What is the smallest integer?
 - a. Write an equation that describes this situation? Be sure to define your variables!

$$\frac{4\times + 6 = 42}{-6 - 6}$$

$$\frac{4\times = 36}{\times = 9}$$
The smallest integer is 9.

- 3. The sum of two consecutive ODD integers is 48. What are the two integers?
 - a. Write an equation that represents this situation- be sure to define your variables.

$$X = 15^{+}$$
 odd integer $X + X + 2 = 48$
 $X + 2 = 2^{nd}$ odd integer

b. Solve your equation and answer the question in a full sentence.

$$\frac{x+x+2=48}{-2-2}$$

$$\frac{-2-2}{2x=46}$$
The two integers are 23 \$\frac{1}{2}\$ 25-

Literal Equations Review

1) Solve for p.

$$\frac{1}{3}p = n : 3$$

$$\rho = 3n$$

3) Solve for d.

$$xy - d = m$$

$$+ d + d$$

$$xy = w + d$$

$$-w$$

$$xy - m = d$$

$$2 \cdot A = \frac{1}{2}bh \cdot 2$$

$$\frac{2A = bh}{b}$$

$$\frac{2A = h}{b}$$
7) Solve for b_1 .

$$A = \frac{1}{2}h(b_1 + b_2)$$

 $A = \frac{1}{2}hb_1 + \frac{1}{2}hb_2$ $-\frac{1}{2}hb_2$ $-\frac{1}{2}hb_2$

$$\frac{-\frac{1}{2}hb^{2}}{2(A - \frac{1}{2}hb^{2})} = \frac{1}{2}hb^{1} \cdot 2$$

$$2(A - \frac{1}{2}hb^{2}) = \frac{1}{2}hb^{1} \cdot 2$$

$$2A - hb^{2} = hb^{1} + h \rightarrow 2$$

$$9) \text{ Solve for } b.$$

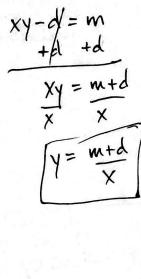
$$3 \cdot V = \frac{1}{3}b^{2} \cdot h \rightarrow 3$$

$$\frac{3V = \frac{b^2h}{kh}}{h}$$

Name

Date

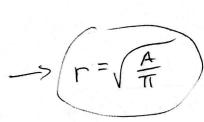
- 2) Solve for y. xy d = m
- V = lwh



- - 6) Solve for r. $A = \pi r^2$

$$\frac{A=M}{\pi}$$

$$\frac{A}{\pi} = \sqrt{2} \longrightarrow$$



- 8) Solve for l. $\frac{P-2\omega=2l}{2}$
 - 10) Solve for x. y = mx + b

Modeling 2 Review



- 1. Dominique Ansel bakery sells truffles. Abby wants to buy 18 truffles. She can either buy one small heart-shaped package, one single truffle, and one large basket of 10 truffles or she can buy two small heart-shaped packages and 4 single truffles. How many truffles are in a small heart-shaped package?
 - a. Define a variable to represent this situation. t= # of truffles in a small package
 - b. Write an equation to represent this situation. +1+10=18 2+14=18

c. Solve your equation and write you	ır answer in a full sentence.
t+1+10=2+44	17-t
K+11=2++4	/112

- 2. At an amusement park, Teddy can go on three rides and have \$16 left over or he can go on 6 rides and have \$4 left over. Each ride costs the same amount of money.
 - a. Write an equation to represent this situation. Remember to define your variable.

r= cost of one ride 32+16=65+4

b. Solve your equation to find out how much it costs to go on one ride.

How much money does teddy have to spend at the park? 3(4)+16=28He has sas to spend at the lark? 12+16=28He has sas to spend at the lark?

Park

3. Ms. P. is thinking of a number. Two times the quantity of twice the number plus four is equal to that number minus four. What number is Ms. P thinking of?

a. Write an equation to represent this situation.

h= number Ms. P is thinking of. 2(2n+4)=n-4

b. Solve your equation and write your answer in a full sentence.

2(2n+4)=n-4

4n+8=N-4 Ms. P. is thinking of -n -A - 4



Name ANSWEY

Solving Equations Review 2

Date

Solve each equation.

1)
$$-1/5 + \frac{x}{36} = -14$$

 $+1/5 + \frac{x}{36} = -14$
 $-1/5 + \frac{x}{36} = -14$

$$\frac{(2)}{2} \frac{r-16}{2} = 26(-2)$$

$$\frac{(-7)}{2} = -52$$

$$\frac{+16}{5} = -36$$

