Activity: All Mixed Up!

Name: _____

Alg. 1 H – Date: Oct. 17

Glue this foldable on page 65 66

Directions: Fill in the table or write a let statement for each word problem. Then write the equation that can be used to solve for each problem.

1. Tyliah has $2.05 in her purse made up of nickels, dimes, and quarters. There are two times as many nickels than quarters, and four more dimes than nickels. How many coins of each kind are there?

Type of coin	Value of each coin In cents	# of coins	total
Nickels	5	$2x$	$= 5(2x)$
Dimes	10	$2x+4$	$= 10(2x+4)$
Quarters	25	x	$= 25x$

Equation: $5(2x) + 10(2x+4) + 25x = 205$

2. Find two consecutive even integers such that 4 times the lesser is 28 more than the greater.

Let 1st CEI = x

2nd CEI = $x+2$

Equation: $4x = (x+2) + 28$

3. Livy is 6 years older than Brooke. Six years ago, Livy was twice as old as Brooke. How old is each now?

	Present Age	past −6
Livy	$x+6$	$x+6-6=x$ (simplify)
Brooke	x	$x-6$

2(young) = old

Equation: $2(x-6)=x$

4. The sum of the ages of Ian and Gavin is 32. In two years Ian will be three times as old as Gavin. How old are they now?

	Present Age	fut
Ian (old)	x	$x+2$
Gavin (young)	$32-x$	$32-x+2=34-x$

3(young) = old

Equation: $3(34-x)=x+2$

5. Find three consecutive integers such that the sum of twice the smallest and 3 times the largest is 126.

Let 1st CI = x

2nd CI = $x+1$

3rd CI = $x+2$

Equation: $2x+3(x+2)=126$

6. The length of a rectangle is 5 less than twice the width. If the length is increased by 7 in and the width is decrease by 2 in, the perimeter will be 54 in. Find the dimensions of the original rectangle.

Let: $2x-5$ (orig) $\times$ x ; $2x-5+7=2x+2$ (new, P=140) $\times$ $x-2$

Equation: $54=2(2x+2)+2(x-2)$

7. The larger of two numbers is 5 less than twice the smaller. Their sum is 43. Find the numbers.

Let smaller # = x

larger # = $2x-5$

Equation: $x+(2x-5)=43$

8. A collection of nickels and quarters amounts to $2.60. There are 16 coins in all. How many of each coin are there?

Type of coin	Value of each coin In cents	# of coins	total
Nickels	5	x	$=5x$
Quarters	25	$16-x$	$=25(16-x)$

Equation: $5x+25(16-x)=260$

Homework: Solve the equations on pages 66 & 67 67 & 68

"Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time." Thomas A. Edison

HW: All Mixed up 10/17
Pick 4 out of the 8 to Slove

1.) $5(2x)+10(2x+4)+25x=205$
$10x+20x+40+25x=205$
$55x+40=205$
$-40 \quad -40$
$\frac{55x}{55}=\frac{165}{55}$
$x=3$

ans:
quarters = 3
dimes = 10
nickels = 6

2.) $4x=(x+2)+28$
$4x=x+30$
$-x \quad -x$
$\frac{3x}{3}=\frac{30}{3}$
$x=10$
ans: 10 & 12

3.) $2(x-6)=x$
$2x-12=x$
$-2x \quad -2x$
$\frac{-12}{-1}=\frac{-x}{-1}$
$x=12$
ans: 12yrs & 18yrs

4.) $x+2=3(34-x)$
$x+2=102-3x$
$+3x \quad +3x$
$4x+2=102$
$-2 \quad -2$
$\frac{4x}{4}=\frac{100}{4}$
$x=25$
ans: 25yrs & 7yrs

or $34-x=3(x+2)$
$34-x=3x+6$
$+x \quad +x$
$34=4x+6$
$-6 \quad -6$
$\frac{28}{4}=\frac{4x}{4}$
$7=x$
ans 7yrs & 25yrs

* 4 ways to do # 4.

Pick 4 out of the 8 questions to solve

5.) $2x+3(x+2)=126$

$2x+3x+6=126$

$5x+6=126$

$-6 \quad -6$

$\frac{5x}{5}=\frac{120}{5}$

$x=24$

ans: 24, 25, 26

6.) $54=2(2x+2)+2(x-2)$

$54=4x+4+2x-4$

$\frac{54}{6}=\frac{6x}{6}$

$9=x$

ans: width = 9 in, length = 13 in

7.) $x+(3x-5)=43$

$3x-5=43$

$+5 \quad +5$

$\frac{3x}{3}=\frac{48}{3}$

$x=16$

ans: 16 & 27

2 ways to do #8

8.) $5x+25(16-x)=260$

$5x+400-25x=260$

$-20x+400=260$

$-400 \quad -400$

$\frac{-20x}{-20}=\frac{-140}{-20}$

$x=7$

ans: 7 nickels & 9 quarters

or

8.) $5(16-x)+25x=260$

$80-5x+25x=260$

$80+20x=260$

$-80 \quad -80$

$\frac{20x}{20}=\frac{180}{20}$

$x=9$

ans: 9 quarters & 7 nickels