

1-9-19

Aim: SWBAT continue to translate word problems into mathematical equations.

HW: Packet Pages 12 - 13

Quiz Monday

Do Now: What is a profit?

Homework

Write an algebraic expression or equation to represent each of the following. Remember to read the words carefully to decide if it is an expression or an equation.

	A	B
1	The product of seven and y is sixteen. $7y = 16$	Four times a number increased by eight. let $n = \text{the \#}$ $4n + 8$
2	Sixteen less than a number, x , is 3 more than y . $x - 16 = y + 3$	Ten decreased by x is fifteen decreased by n . $10 - x = 15 - n$
3	Fifty is twelve subtracted from x . $50 = x - 12$	Twice the sum of x and y is three times z . $2(x + y) = 3z$
4	Sixteen is the product of eight and y . $16 = 8y$	Twice the difference of x and three is nine. $2(x - 3) = 9$
5	The quotient of eleven and v is seven minus x . $\frac{11}{v} = 7 - x$	Five times the difference of nine and x . $5(9 - x)$

Solve algebraically.

6. Three times a number decreased by five is forty-nine. What is the number?

ARITHMETIC

$$49 + 5 = 54$$

$$54 \div 3 = 18$$

ALGEBRAIC

Let $n = \text{the number}$

$$3n - 5 = 49$$

$$+5 \quad +5$$

$$\frac{3n}{3} = \frac{54}{3}$$

$$n = 18$$

The number is 18.

7. Mark spent \$15 at the state fair where the admission fee was \$5 and the rides cost \$2 each. How many rides did Mark go on?

ARITHMETIC

$$15 - 5 = 10$$

$$10 \div 2 = 5$$

ALGEBRAIC

Let x = # of rides _____

$$\begin{array}{r} 5 \\ \cancel{5} \end{array} 2x = 15$$

$$\begin{array}{r} \\ \phantom{\cancel{5}} \end{array} = $$

$$\hline \begin{array}{r} \cancel{2} \\ \end{array} x = \frac{10}{2}$$

$$x = 5$$

Mark went on
5 rides.

8. Lou has 36 rocks in his collection. He separated them into equal piles of 9 rocks. How many piles of rocks did Lou separate his collection into?

ARITHMETIC

$$36 \div 9 = 4$$

ALGEBRAIC

Let x = # of piles of rocks _____

$$\begin{array}{r} 9 \\ \cancel{9} \end{array} x = 36$$

$$\begin{array}{r} \\ \phantom{\cancel{9}} \end{array} = $$

$$\hline x = 4$$

Lou separated his
collection into 4 piles.

Aim: SWBAT continue to translate word problems into mathematical equations.

Solve algebraically.

- * Pg. 137 # 21. You and your friends decide to have a car wash as a fundraiser for the school chorus. You spend \$15 on supplies and charge \$6 per car. At the end of the day, your profit is \$93. How many cars did you and your friends wash?

ARITHMETIC

$$93 + 15 = 108$$

$$108 \div 6 = 18$$

ALGEBRAIC

let $x = \#$ of cars

$$\begin{array}{r} 6x - 15 = 93 \\ + 15 \quad + 15 \\ \hline \end{array}$$

$$\begin{array}{r} 6x = 108 \\ \hline 6 \quad 6 \\ \hline \end{array}$$

$$x = 18$$

We have to wash 18 cars.

- Pg. 137 #23. You make candles and sell them for \$15 each. The materials to make up to 20 candles cost \$20. How many candles must you sell to have a profit of \$85 after expenses?

ARITHMETIC

ALGEBRAIC

- Pg. 137 #24: A bicycle rental shop charges \$5 per hour plus a fee of \$10 each time you rent a bike. Which equation can you use to find the number of hours you can rent a bicycle for \$45?

A) $5h + 10 = 45$

B) $10h + 5 = 45$

C) $5 + h + 10 = 45$

D) $15h = 45$

- Pg. 137 #25: You subscribe to a magazine that costs \$26 yearly. You make an initial payment of \$5 and then make three equal payments. How much is each payment?

ARITHMETIC

ALGEBRAIC

Homework

Solve algebraically.

Pg. 138 # 30. You need 124 plastic forks for a party. At one store you buy the last 5 boxes, and each box contains 8 forks. At another store you find boxes that contain 12 forks. How many of these boxes do you need to buy?

ARITHMETIC

ALGEBRAIC

Pg. 138 # 31. The senior class at your school made a \$300 profit at the school fair by having a dunk tank. The dunk tank cost \$135 to rent, and the senior class charged \$5 for each person to play. If one third of people who participated were adults, how many adults participated?

ARITHMETIC

ALGEBRAIC

Pg. 138 # 33 A taxi cab costs \$2 plus an additional \$1.50 for every mile. Your ride costs \$17 before the tip. How many miles did you go? Will it cost twice as much to go twice as far? Explain.

ARITHMETIC

ALGEBRAIC

Pg. 138 # 35 You have a job in which you make \$6 an hour plus tips. You made a total of \$34 yesterday. How much did you make in tips?

ARITHMETIC

ALGEBRAIC

Pg. 138 # 38. Amanda takes her car to the repair shop. The mechanic starts working on the car at 10:30 A.M., takes a 45 minute lunch break, and then continues working into the afternoon. The parts to fix the car cost \$350 and the labor costs \$80 per hour. Amanda pays \$730 in all. At what time does the mechanic finish the work?

ARITHMETIC

ALGEBRAIC