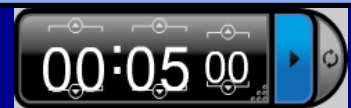


Due Next Class: 1 level2

## Lesson 2.3: Modeling with Equations


$$1. \quad 7 - 3k = 1$$

$$\begin{array}{r} -7 \quad -1 \\ \hline -3K = -6 \\ \hline -3 \quad -3 \\ \hline K = 2 \end{array}$$

2.  $2(x - 1) = 8$

$$\begin{array}{r} 2x - 2 = 8 \\ \underline{+ 12 \quad + 12} \\ 2x = 10 \\ \underline{- 2x} \\ 10 = 10 \end{array}$$

$$3. \quad -4t + 10 - 2t = 0$$

$$\begin{array}{r} -6t + 10 = 0 \\ -10 \quad -10 \\ \hline -6t = -10 \\ \frac{-6t}{-6} = \frac{-10}{-6} \\ t = \frac{10}{6} = \frac{5}{3} \end{array}$$

## Modeling with Equations:

*Writing an equation that represents a situation and solving it to answer the question in the word problem.*



Tiffany babysits on the weekends. She gets paid \$8 an hour plus \$10 for each job. If she made \$50 last night, how many hours did she babysit?

1. Define a variable to represent our unknown.

$h = \text{\# of hours}$

~~$h = \text{hours}$~~

2. Write an equation using that variable to MODEL the situation.

$$8h + 10 = 50$$

3. Solve your equation to get an answer.

$$\begin{array}{r} 8h + 10 = 50 \\ -10 \quad -10 \\ \hline 8h = 40 \\ \div 8 \quad \div 8 \\ \hline h = 5 \end{array}$$

4. Use your answer to write out an answer to the question (FULL SENTENCES!)

She sat for 5 hours



Jim needs \$100 to buy a new video game. He gets \$15 per lawn he mows and has \$40 saved up already. How many lawns does he need to mow to have enough money for the game?

1. Define a variable to represent our unknown.

$$l = \text{\# of lawns}$$

2. Write an equation using that variable to MODEL the situation.

$$15l + 40 = 100$$

3. Solve your equation to get an answer.

$$l = 4$$

4. Use your answer to write out an answer to the question (FULL SENTENCES!)

Jim needs to mow 4 lawns

The sum of two consecutive integers is 33, write an equation to determine the values of the integers.

2 #s one right after the other.

$X = 1^{\text{st}} \text{ Integer}$

$X+1 = 2^{\text{nd}} \text{ Integer}$

$$X + X + 1 = 33$$

$$2X + 1 = 33$$

$$\begin{array}{r} 2X + 1 = 33 \\ \underline{-1 \quad -1} \\ 2X = 32 \\ \underline{\quad \quad 2} \\ X = 16 \end{array}$$

The Integers are 16 & 17

## Word Problem Worksheet

You will work with 1 partner at a time on the worksheet.

We will change partners every 5 minutes!

If you are ahead of your partner you need to catch them up before moving on!



**Extra Practice Problems:**

- 1. The sum of three consecutive odd integers is 39. What is the largest number?**
  
- 2. Michael got \$50 for his birthday and is saving for new sneakers that are \$175. He is walking dogs for extra cash and charges \$8 per dog walk. How many walks does he need to do to be able to afford the shoes?**

1. Jimmy went to a ball game last weekend. He bought 4 hot dogs and 1 bottle of water for \$3. If he spent \$11 all together, how much was each hot dog?

each hot dog is  
\$2

2. The sum of two consecutive numbers is 27. What is the smallest of the two numbers

The smallest # is 13

3. Kate gets paid \$10 an hour at her job. She also receives \$25 a week from her parents. If she made a total of \$145 dollars last week, how many hours did she work?

Kate worked  
12 hours

4. Kevin and Simon are brothers. Kevin is two years older than twice Simon's age. If Kevin is 28, how old is Simon?

Simon is 13 y/o

5. Malcom has \$370 in his savings account. His parents gave him fifty dollars for his birthday, he saved all of the money from mowing lawns in the summer time, and his grandparents gave him \$100 last year. If he charges \$10 for each lawn he mows, how many yards did he mow?

Malcom mowed 22 lawns.

6. The sum of two consecutive even integers is 22. What are the two integers? \*WRITE AN EQUATION\*

The #s are 10 & 12



# Recap

Homework:

finish wrksh 2.3  
+ gateway (if you're under 10)

Today in MATH

modeling

Next Class:

QUIZ + PUZZLES