

October 6th

Due Today:

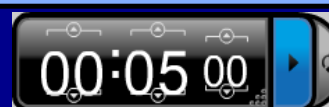
GW

Due Next Class:

GW

Unit 2: Solving Equations

Lesson #: 2.7: More Modeling



Get Ready: Please get out GW levels to be checked!



Use modeling to answer this question:

1. You have \$15 to spend on school supplies. If you bought 3 notebooks, a pack of pencils for \$4 and have \$2 left over, how much do notebooks cost? Write an equation that represents this situation.
2. The sum of four consecutive integers is 18. What is the value of the largest integer?

Check your answers to 2.8

$$3) r = \frac{c}{2\pi}$$

$$4) m = \frac{e}{c^2}$$

$$7) h = \frac{V}{\pi r^2}$$

$$8) r = \frac{S}{2\pi h}$$

$$9) B = \frac{3V}{h}$$

$$10) h = \frac{3V}{\pi r^2}$$

$$11) R = \frac{E}{I}$$

$$12) T = \frac{VP}{K}$$

$$13) X = -\frac{b}{a}$$

$$14) X = \frac{y-b}{m}$$

$$15) W = \frac{P-2L}{2}$$

$$16) y = \frac{c-ax}{b}$$

$$17) S = -Dnt + C$$

$$18) R = \frac{100D}{(100-X)}$$

$$19) r = \frac{R-c}{C}$$

$$20) t = \frac{A-P}{Pr}$$

Get Ready Review

1. You have \$15 to spend on school supplies. If you bought 3 notebooks, a pack of pencils for \$4 and have \$2 left over, how much do notebooks cost? Write an equation that represents this situation.

$n = \text{cost of a notebook}$

$$3n + 4 + 2 = 15$$

$$3n + 6 = 15$$

$$3n = 9$$

$$\boxed{n = 3}$$

$$\therefore 3n + 4 + 2 = 15$$

or

$$3n + 4 = 15 - 2$$

2. The sum of four consecutive integers is 18. What is the value of the largest integer?

$n = 1^{\text{st}} \#$

$$n + n + 1 + n + 2 + n + 3 = 18$$

$$4n + 6 = 18$$

$$4n = 12$$

$$n = 3$$

The biggest # is 6

You have \$25 to spend at the movies. You have a few options:

a. You can buy the ticket (\$10), 2 candies and a large drink (\$6) and have \$1 left over.

b. You can buy the ticket (\$10), 3 candies and a small drink (\$3) and have nothing left over.

$x = \$ \text{ per candy}$

$$\underline{10} + 2x + \underline{6} + \underline{1} = 25$$

$$\begin{array}{r} 2x + 17 = 25 \\ -17 \quad -17 \\ \hline \end{array}$$

$$\begin{array}{r} 2x = 8 \\ \frac{2}{2} \quad \frac{2}{2} \\ \hline \end{array}$$

$$\boxed{x = 4}$$

$$\underline{10} + 3x + \underline{3} = 25$$

$$\begin{array}{r} 3x + 13 = 25 \\ -13 \quad -13 \\ \hline \end{array}$$

$$\begin{array}{r} 3x = 12 \\ \frac{3}{3} \quad \frac{3}{3} \\ \hline \end{array}$$

$$\boxed{x = 4}$$

$$10 + 2x + 6 + 1 = 10 + 3x + 3$$

Transitive Property

If $a=b$ and $b=c$,
then $a=c$!



Solve your equation to determine the cost of a slice of pizza.

$$2c + \underline{1+1+7} = 3c + \underline{2+4}$$

$$2c + 9 = 3c + 6$$

$$\begin{array}{r} 2C + 3 = 3C \\ -2C \quad -2C \\ \hline 3 = C \end{array}$$

Each slice is
\$3

$$\begin{aligned} 2c + 9 &= 3c + 6 \\ \underline{2(3) + 9} &= 3(3) + 6 \\ 6 + 9 &= 9 + 6 \\ 15 &= 15 \end{aligned}$$

Mike has
\$15

More Modeling Worksheet

- ① Define a variable
- ② Model an equation
- ③ Solve it!
- ④ Answer in a full sentence!

Kim's Homework	Juan's B-day \$
$p = \text{time to do powerspeak}$	$x = \$ \text{ w/friends.}$
$20 + 10 + 5p = 50 + 2p + 7$	$110 + 5x + 40 = 200 + 2x + 10$
$\begin{array}{r} 30 + 5p = 57 + 2p \\ -2p \quad -2p \\ \hline 30 + 3p = 57 \\ -30 \quad -30 \\ \hline 3p = 27 \\ \frac{3p}{3} = \frac{27}{3} \quad \boxed{p=9} \end{array}$	\vdots
$\begin{array}{r} 30 + 45 \\ 30 + 5p \\ 30 + 5(9) \\ 30 + 45 \\ 75 \end{array}$	$\begin{array}{l} 110 + 5(x) + 40 \\ 110 + 100 + 40 \\ \boxed{= 250} \end{array}$
	$x = 20$

Recap

Today in MATH

Modeling

Homework:

Gateway! Be at level 13/14 by tomorrow

Next Class:

SEQ w/ fractions game

