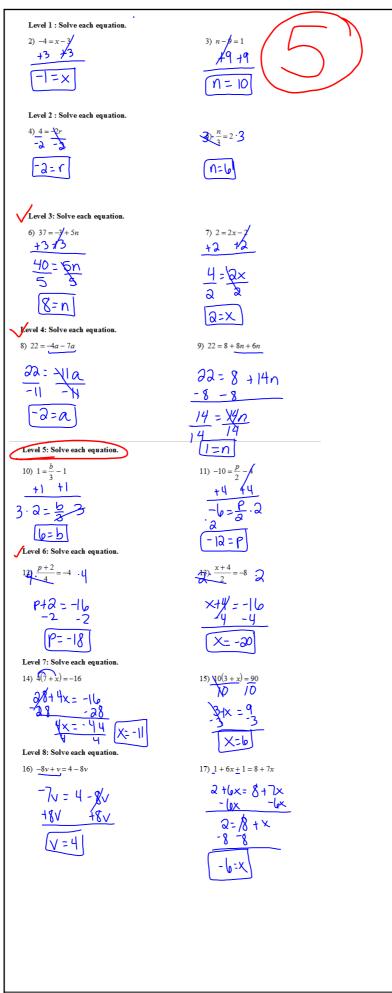| October 1st	Due Today SEQ Pretest
	Due Next Class: 1/2 levels

Unit 2: Solving Equations

Lesson 2.1: Modeling with Expressions and Equations

Get Ready:

Fill out your unit 2 cover sheet with today's lesson # and name!

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Get our your orange SEQ pretest and get ready to grade it.
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Aug 5-9:51 PM

Level 1 : Solve each equation.

2) $-4 = x - 3$

$+3 \quad +3$

$\boxed{-1 = x}$

3) $n - 9 = 1$

$+9 \quad +9$

$\boxed{n = 10}$

⑤

Level 2 : Solve each equation.

4) $4 = -2r$

$\dfrac{4}{-2} \quad \dfrac{-2r}{-2}$

$\boxed{-2 = r}$

5) $\dfrac{n}{3} = 2 \cdot 3$

$\boxed{n = 6}$

✓ **Level 3: Solve each equation.**

6) $37 = -3 + 5n$

$+3 \quad +3$

$\dfrac{40}{5} = \dfrac{5n}{5}$

$\boxed{8 = n}$

7) $2 = 2x - 2$

$+2 \quad +2$

$\dfrac{4}{2} = \dfrac{2x}{2}$

$\boxed{2 = x}$

✓ **Level 4: Solve each equation.**

8) $22 = -4a - 7a$

$\dfrac{22}{-11} = \dfrac{-11a}{-11}$

$\boxed{-2 = a}$

9) $22 = 8 + 8n + 6n$

$22 = 8 + 14n$

$-8 \quad -8$

$\dfrac{14}{14} = \dfrac{14n}{14}$

$\boxed{1 = n}$

⟨Level 5: Solve each equation.⟩

10) $1 = \dfrac{b}{3} - 1$

$+1 \quad +1$

$3 \cdot 2 = \dfrac{b}{3} \cdot 3$

$\boxed{6 = b}$

11) $-10 = \dfrac{p}{2} - 4$

$+4 \quad +4$

$-6 = \dfrac{p}{2} \cdot 2$

$\cdot 2$

$\boxed{-12 = p}$

✓ **Level 6: Solve each equation.**

12) $\dfrac{p+2}{4} = -4 \cdot 4$

$p + 2 = -16$

$-2 \quad -2$

$\boxed{P = -18}$

13) $\dfrac{x+4}{2} = -8 \quad \cdot 2$

$x + 4 = -16$

$-4 \quad -4$

$\boxed{X = -20}$

Level 7: Solve each equation.

14) $4(7 + x) = -16$

$28 + 4x = -16$

$-28 \qquad -28$

$\dfrac{4x}{4} = \dfrac{-44}{4} \quad \boxed{X = -11}$

15) $\dfrac{10(3 + x)}{10} = \dfrac{90}{10}$

$\dfrac{3 + x}{-3} = \dfrac{9}{-3}$

$\boxed{X = 6}$

Level 8: Solve each equation.

16) $-8v + v = 4 - 8v$

$-7v = 4 - 8v$

$+8v \qquad +8v$

$\boxed{v = 4}$

17) $1 + 6x + 1 = 8 + 7x$

$2 + 6x = 8 + 7x$

$-6x \qquad -6x$

$2 = 8 + x$

$-8 \quad -8$

$\boxed{-6 = x}$

Oct 1-9:13 AM

2

Solving Equations Gateway

Each student will start somewhere between level 3 and 8.

You will need to complete 1 or 2 levels a night.

To complete a level you must watch the video and do the problems in the video. Then you must do the CHALLENGE questions. You will only be graded on those 3 challenges! All three must be completely correct!

Sep 30-2:41 PM

Modeling with

Expressions /Equations:

Using one or more variables that represent an unknown quantity to write an expression or equation that connects to a real world situation.

three more than four times a number

$$3 + 4x$$

seven is two less than the opposite of a number

$$7 = -x - 2$$

Sep 30-3:06 PM

I, _____ will follow proper

Solving equations steps, show all my

work, write the variable on the left and

Circle my answers!

Oct 1-2:00 PM

1. Marissa has decided to start babysitting on the weekends to earn extra money. She thinks that ten dollars an hour is a fair amount to ask for. Let h represent the number of hours that Marissa will babysit for. Write an **expression** that **models** the amount of money she would earn for an entire night of sitting.

$$10h$$

2. After talking to a friend, Marissa decides that she is not charging enough. She had decided to charge $12 per hour plus a $10 flat fee (to cover travel expenses and such). Write an **expression** that **models** the amount of money she would earn for an entire night of sitting with her new prices. (you should still use h to represent the number of hours Marissa sits)

$$12h + 10$$

3. Marissa babysat last Saturday night and made $46. Use your **expression** from number 2 and the total she made on Saturday night to write an **equation** that models this situation.

$$46 = 12h + 10$$

4. **Solve** your equation from number 3 to determine the number of hours that Marissa worked on Saturday. Be sure to write your answer in a **full sentence**.

$$46 = 12h + 10$$
$$\underline{-10 \qquad -10}$$
$$\frac{36}{12} = \frac{12h}{12}$$

$$3 = h$$

She babysat for 3 hours

5. The next weekend Marissa is asked to babysit for a family with five children! She thinks that $12 per hour is not enough to watch five kids! So she has decided to charge the $10 flat fee, $12 per hour for a maximum of 2 children, then add $5 per extra child. Let h= *number of hours worked* and let c=*number of extra children over 2*. Write an **expression** that **models** the amount of money Marissa will earn for an entire night of sitting.

$$10 + 12h + 5c$$

6. Marissa baby sat last night for the Smith family and earned $80 in total. Use your **expression** from number 5 and the total she made on last night to write an **equation** that models this situation.

$$10 + 12h + 5c = 80$$

*We cannot **solve** this equation because it has two **variables**.*

7. Use your **equation** from number 6 and the fact that Marissa babysat for 5 hours last night to determine the *total* number of children in the Smith family.

$$10 + 12h + 5c = 80$$
$$10 + 12(5) + 5c = 80$$
$$10 + 60 + 5c = 80$$
$$\underline{70 + 5c = 80}$$
$$\underline{-70 \qquad -70}$$
$$\frac{5c}{5} = \frac{10}{5}$$
$$c = 2$$

The Smiths have 4 Kids

Consecutive Integers

$$x, \; x+1, \; x+2, \; x+3, \;)$$

(1st) The Sum of two Consecutive Integers is 27

$$x + x+1 = 27$$

Consecutive even/odd Integers

$$x, \; x+2, \; x+4, \;)$$

$$10, 12, 14, 16$$

$$13, 15, 17, 19$$

Oct 1-2:04 PM

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?

Sep 23-4:05 PM

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

Oct 25-3:41 PM

Unit 2: Solving Equations

Lesson #   Name   Recap   HW

2.1

1/2 gw levels
finishwksht