

**Lesson 9: Translating word phrases into equations /number problems,
Consecutive integer problems, Unit Review and self-quiz**

Number Problems**Instructions:**

Follow along with video and fill in the blanks as indicated. Space has been provided for you to show all work on this sheet and take any additional notes.

Examples:

1. The sum of a number and six is fourteen. Find the number.

2. The product of a number and three decreased by five results in nineteen. Find the number.

3. Three times the difference between some number and two gives twelve. Find the number.

Notice on these next two problems we have more than one unknown. Watch information on video carefully.

4. The sum of two numbers is forty-two. Find the numbers.

5. The sum of two numbers is thirty-five. Find the numbers.

Now we will revisit problems 4 and 5 – this time with the additional information.

4. The sum of two numbers is forty-two. **One number is six more than the other number.** Find the numbers.

5. The sum of two numbers is thirty-five. **One number is five more than half of the other number.** Find the numbers.

Fill in the blanks:



Steps for Solving Algebra Word Problems

1. _____ the problem all the way through. Look for a question at the end.
2. _____ the _____. Begin every algebra word problem with “*x + something.*”
3. Reread the problem and begin translating _____ into math _____.
4. Form the _____ and solve.
5. _____ for reasonableness of your answer. Has the question been answered?

Copy steps/answers from video.

6. One number is five less than twice another. Their sum is twenty-eight. Find the numbers.

7. One number is three more than $\frac{1}{2}$ of the other number. Their sum is 18. Find the numbers.

STOP THE LESSON AND WORK THE PROBLEM SET

Problems Set: Number Problems

Create an equation and solve for the missing number(s).

1. Fourteen plus some number is equal to three times that number plus six.

2. The difference between a number and eight is negative five.

3. One number is eight more than another number. Find the two numbers if their sum is twenty-eight.

4. One number is three more than twice another. Their sum is forty-two. Find the numbers.


5. One number is $1\frac{1}{2}$ times another. Their sum is 100. Find the numbers.

RESUME THE LESSON FOR ANSWERS AND SOLUTIONS

(Note: On the video you will first see the answers only. Following the answers, solution steps for all problems are also shown on the video.)

Lesson 9 (cont'd): Consecutive Integer Problems

Recall the definition of Integers:

<p>Definition</p> 	<p>_____ are positive or negative whole numbers, and zero.</p> <p style="text-align: center;">$\dots -3, -2, -1, 0, 1, 2, 3 \dots$</p>
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Here are some addition definitions. Fill in the missing blanks.

Consecutive integers is a sequence of integers, written in order, each integer being _____ more than the previous integer.

Ex: 7, 8, 9, 10

Consecutive even integers is a sequence of integers, written in order, each integer being _____ more than the previous integer.

Ex: 18, 20, 22

Consecutive odd integers is a sequence of integers, written in order, each integer being _____ more than the previous integer.

Ex: 23, 25, 27

Watch video carefully for these patterns. Take notes.

Consecutive Integers

... 7, 8, 9 ...

Consecutive Even Integers

... 18, 20, 22 ...

Consecutive Odd Integers

... 23, 25, 27 ...

To summarize:



Consecutive Integer Patterns

♦ Any _____ integer sequence can be represented as:

$x, x + 1, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \dots$

♦ Any consecutive odd/even integer sequence can be represented as:

$x, x + 2, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \dots$

Examples: Copy steps/answers from video.

1. Find three consecutive integers whose sum is 84.

2. Find four consecutive even integers such that the sum of the first and fourth is equal to 30.

3. In a sequence of three consecutive odd integers, twice the first one is three more than the last one. Find the sequence

STOP THE LESSON AND WORK THE PROBLEM SET

Unit 3 – Self-Quiz

Solve and check.

1. $4(x - 2) = 32$

2. $0.3x + 1.2 = 3$

3. $12 - 5(y - 3) = 32$

4. $7p - (p - 2) + 8 = 2p + 1$

5. $\frac{3}{8}x + \frac{9}{4} = 21$

6. $\frac{2x - 1}{4} = \frac{x - 3}{5}$

Solve and graph.

7. $2 - 5x \geq 7$

8. $\frac{3}{4}x + \frac{1}{2}(x - 8) < \frac{1}{4}x + 5$

Represent the unknowns using any single variable. Write an equation and solve.

9. One number is five less than twice another. Their sum is 40. Find the numbers.

10. In a sequence of 4 consecutive odd integers, the sum of the first and the last is 28. Find the sequence.

RESUME THE LESSON FOR ANSWERS AND SOLUTIONS

(Note: On the video you will first see the answers only. Following the answers, solution steps for all problems are also shown on the video.)
