


Grade 8 Mathematics

Number and Number Relations: Lesson 11

Read aloud to the students the material that is printed in **boldface type** inside the boxes. Information in regular type inside the boxes and all information outside the boxes should **not** be read to students. Possible student responses are included in parentheses after the questions.

NOTE: The directions read to students may depend on the available materials. Read only those parts of the lesson that apply to the materials you are using.

Any directions that ask you to do something, such as to turn to a page or to hand out materials to students, will have an arrow symbol () by them.

Purpose of Lesson 11:

- In this lesson, the tutor and the students will
 - ✓ analyze word problems by choosing the correct numbers so that a problem makes sense.

Equipment/Materials Needed:

- Copies of Student Sheet 84
- Paper and pencils
- Chalkboard
- Calculators (optional)

Preparations before beginning Lesson 11:


- Run one copy of Student Sheet 84 for each student.
- Have paper and pencils available.
- Borrow calculators from one of the teachers if you decide to use them.

Lesson 11: Number and Number Relations

This lesson, as did Lessons 7 and 8 in Number Relations, focuses on analyzing word problems. This time, the emphasis will be on choosing the correct numbers so that a problem makes sense. The problems will involve money, time, and measurement.


Say:

In today's lesson, you will look at problems in which the numbers are missing. You will be given a set of numbers from which you can choose to fill in the blanks. You must make sure that the numbers you choose make sense in the problem. It would be wise to read the entire problem before you start placing the numbers.

 Give Student Sheet 84 to the students. You may want to cut the sheet into individual problems so that the students focus on only one problem at a time. Discussion is very important on each of the problems. Because these problems involve guessing and checking, you may want to allow calculators. Some of the problems may be difficult for the students, but the problems can all be solved by using guess and check strategies. It will help if the students read the entire problem before they begin placing numbers. If students place a number incorrectly, they simply need to move it and try another.

Answers:

1. \$100; 6; \$10.75; \$8.75; \$26.75
The order of \$8.75 and \$26.75 could be swapped, but it is unrealistic that shipping would cost \$26.75 for CD's.
2. 2; 11; 13; 143; 48
The order of 11 and 13 could be swapped.
3. 7; 9; 11; 2; 27; 3
4. 8:45; 5:30; 2 ½; 11:15; 17
5. 180; 12 ½; 10 ½; 2; 3; 60
6. 31; 8; 14; 2; 9
7. 3; 180; 90°; 2; 45°
8. 3.5; 21.98; 38.47; 3.14; 1/100

 Have one student summarize today's lesson. This lesson will help students focus on how the information in a problem must make sense.

Student Sheet 84 (Number Relations: Lesson 11)

Each problem below has some data missing. Fill in the blanks with the correct numbers from the boxes. You can use each number only once. Remember that your problem must make sense. Be ready to explain your choices.

1. Elton had _____ to spend. He ordered _____ CD's. Each CD cost _____. The shipping charge on the order was _____. Elton will have _____ left over.

6	\$8.75	\$10.75	\$100	\$26.75
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2. Tamara was building a pen for her _____ dogs. She wanted the pen to give the dogs a lot of area in which to run around. She also wanted to build a fence, so she had to find the perimeter. She decided the pen should measure _____ ft. by _____ ft. The area of the pen would be _____ square feet and the perimeter would be _____ feet.

143	11	48	13	2
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3. Devon purchased _____ Pokèmon cards in June, _____ in July, and _____ in August. Each month he bought _____ more than the month before. He bought _____ Pokèmon cards in the _____ months.

3	7	27	2	9	11
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4. Maria went to the Crawfish Festival in Westwego. The festival opened at _____ a.m. and closed at _____ p.m. Maria got to the fair when it opened and stayed for _____ hours. She left at _____ a.m. She saw _____ of her friends, which was well over a dozen friends.

5:30	11:15	17	2 ½	8:45
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Student Sheet 84 (Number Relations: Lesson 11) continued

5. The Soprano family went on a canoeing trip. They drove _____ miles to get to the river. The first day they paddled _____ miles, and on the second day they paddled _____ miles. The second day they paddled _____ miles less than they had paddled the first day. It took them about _____ hours to get home. They averaged a speed of _____ miles/hour.

12½ 3 60 2 10½ 180

6. Junika's baby brother was born on August _____. He weighed _____ pounds and _____ ounces. If he gains _____ ounces, he will weigh _____ pounds. (1 pound = 16 ounces.)

8 14 2 9 31

7. Harvey was working on geometry problems. One problem contained a figure that had _____ sides. The angle measures added to _____°. One angle measured _____°. The triangle was an isosceles right triangle, which meant that _____ sides and angles were congruent. The measure of each of the other two angles was _____°.

2 180 3 45 90

8. Crenna was working on the same geometry problems. She was working with a circle. She found that the radius was _____ cm and the diameter was _____ cm. She computed the circumference to be _____ cm and the area to be _____ sq. cm. She used $\pi =$ _____. She rounded all numbers to the nearest _____. ($C = 2\pi r$ and $A = \pi r^2$.)

7 3.14 21.98 38.47 3.5 1/100