

Guided Lesson Notes

Name: _____

Date: _____

Relations and Functions

Directions: Complete this study guide as you move through the lesson. By taking notes, you are more likely to remember what you are learning. The completed study guide can be used to complete practice activities and to prepare for quizzes and exams. Be sure to save each study guide so you can access it when you need it.

Essential Vocabulary

As you encounter these mathematical terms from within the lesson, enter the meaning and an example (or two) for each of the terms. You can even draw a picture. If there are other unfamiliar words you find, enter them in the blank spaces provided.

<i>relation</i>	<i>ordered pair</i>
<i>mapping diagram</i>	<i>function</i>
<i>domain</i>	<i>range</i>

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Relations

Ms. Kendall gave a quiz to her Algebra 2 students. After she graded the quizzes, she asked 10 of her students how long, in minutes, they had studied for the quiz. Their responses and scores on the quiz are in the table below.

Student	Amount of Time Studied (minutes)	Quiz Score Earned (percentage)
1	30	84
2	10	52
3	15	66
4	20	84
5	20	61
6	60	100
7	25	94
8	15	80
9	0	72
10	35	90

Use the table to create ordered pairs, a graph, and a mapping diagram.

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Functions

Is the relationship between the amount of time Ms. Kendall's students studied and the quiz score they earned a function? Explain.

The relation, as ordered pairs, is

$(30, 84)$; $(10, 52)$; $(15, 66)$; $(20, 84)$; $(20, 61)$; $(60, 100)$; $(25, 97)$; $(15, 80)$; $(0, 72)$; $(35, 90)$.

Domain and Range

Give the domain and the range for Ms. Kendall's table, where the input value is the amount of time studied and the quiz score earned is the output value.

Equation or Function?

1. Evaluate $y^2 = x$ for $x = 64$. Is this equation a function?
2. Evaluate $y = 15x + 3$ for $x = -1, 0, 2$. Is this equation a function?
3. Write $y = 15x + 3$ using function notation.

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Equation or Function Practice

Evaluate $f(x) = 2x + 7$ for $f(-4)$. What are the domain and range of this function?