Lesson 22 Practice Problems

1. There are many cylinders with a height of 18 meters. Let r represent the radius in meters and V represent the volume in cubic meters.

   a. Write an equation that represents the volume V as a function of the radius r.

   b. Complete this table, giving three possible examples.

r	V
1	

   c. If the radius of a cylinder is doubled, does the volume double? Explain how you know.

   d. Is the graph of this function a line? Explain how you know.

2. As part of a competition, Diego must spin around in a circle 6 times and then run to a tree. The time he spends on each spin is represented by s and the time he spends running is r. He gets to the tree 21 seconds after he starts spinning.

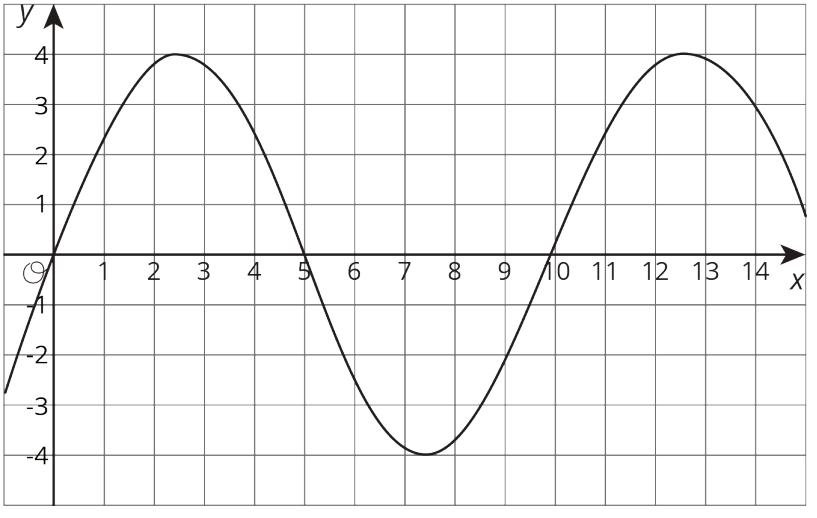
   a. Write an equation showing the relationship between s and r.

   b. Rearrange the equation so that it shows r as a function of s.

   c. If it takes Diego 1.2 seconds to spin around each time, how many seconds did he spend running?

(From Unit 6, Lesson 3.)

3. The table and graph represent two functions. Use the table and graph to answer the questions.



x	1	2	3	4	5	6
y	3	-1	0	4	5	-1

a. For which values of x is the output from the table less than the output from the graph?

b. In the graphed function, which values of x give an output of 0?

(From Unit 6, Lesson 7.)

4. A cone has a radius of 3 units and a height of 4 units.

a. What is this volume of this cone?

b. Another cone has quadruple the radius, and the same height. How many times larger is the new cone's volume?