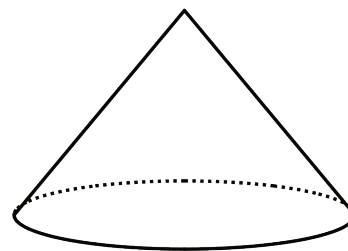# Lesson 15 Practice Problems

1. A cylinder and cone have the same height and radius. The height of each is 5 cm, and the radius is 2 cm. Calculate the volume of the cylinder and the cone.

2. The volume of this cone is 36π cubic units.

   What is the volume of a cylinder that has the same base area and the same height?

3. A cylinder has a diameter of 6 cm and a volume of 36π cm^3.

   a. Sketch the cylinder.

   b. Find its height and radius in centimeters.

   c. Label your sketch with the cylinder's height and radius.

   (From Unit 5, Lesson 14.)

4. Lin wants to get some custom T-shirts printed for her basketball team. Shirts cost $10 each if you order 10 or fewer shirts and $9 each if you order 11 or more shirts.

   a. Make a graph that shows the total cost of buying shirts, for 0 through 15 shirts.
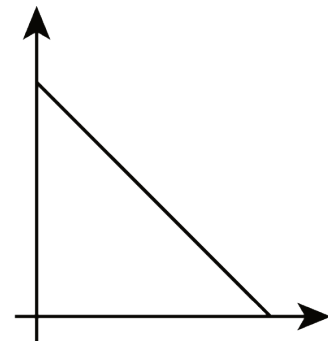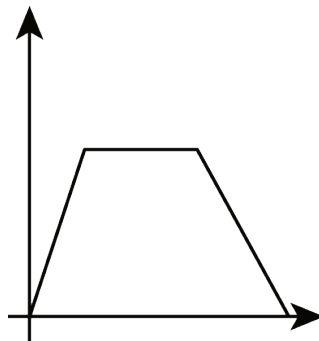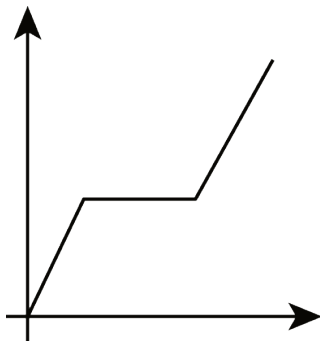
   b. There are 10 people on the team. Do they save money if they buy an extra shirt? Explain your reasoning.

   c. What is the slope of the graph between 0 and 10? What does it mean in the story?

   d. What is the slope of the graph between 11 and 15? What does it mean in the story?

(From Unit 5, Lesson 10.)

5. In the following graphs, the horizontal axis represents time and the vertical axis represents distance from school. Write a possible story for each graph.

(From Unit 5, Lesson 6.)

Grade 8 Unit 5

Lesson 15

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