

**Related Practice – Answer Key**  
**Math in Action Video: Cake Artistry**  
**Cake Designer: Amanda Shafer**

**Directions:** Use the following activities to enhance students' experience with Math in Action videos and reinforce math concepts.

**Math in Action: Volume of a Cake**

A circular cake has a diameter of 10 inches and a height of 3 inches. What is the volume of the cake?

$$V = \pi r^2 h$$

**Answer:**

$$\text{radius} = \frac{\text{diameter}}{2}$$

$$r = \frac{10 \text{ inches}}{2}$$

$$r = 5 \text{ inches}$$

$$V = \pi (5 \text{ inches})^2 (3 \text{ inches})$$

$$V \approx 235.619 \text{ inches}^3$$

or using 3.14 as the value for  $\pi$ ,

$$V = 235.5 \text{ inches}^3$$



If the volume of one slice of this cake is 8 inches<sup>3</sup>, how many slices of cake can be cut from this cake?

**Answer:**

$$\frac{235.619 \text{ inches}^3}{8 \text{ inches}^3/\text{slice}} \approx 29.452, \text{ so } 29 \text{ slices of cake}$$

or using 3.14 as the value for  $\pi$ ,

$$\frac{235.5 \text{ inches}^3}{8 \text{ inches}^3/\text{slice}} \approx 29.4375, \text{ so } 29 \text{ slices of cake}$$



**Math in Action: Designing a Cake**

Draw a design that could be used on a cake in quadrant 2. Reflect your design across the y-axis.

**Student answers will vary.**

Draw another design for your cake in quadrant 1. Rotate your design 180° about the origin.

**Student answers will vary.**

