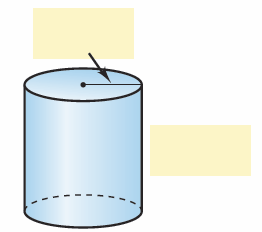
College Algebra 1

8.3/8.4 Day 2!

Starter(s): Simplify the following.

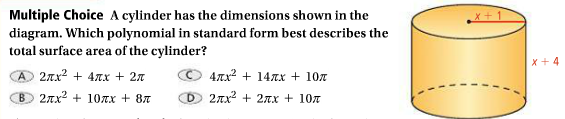
1. 2.

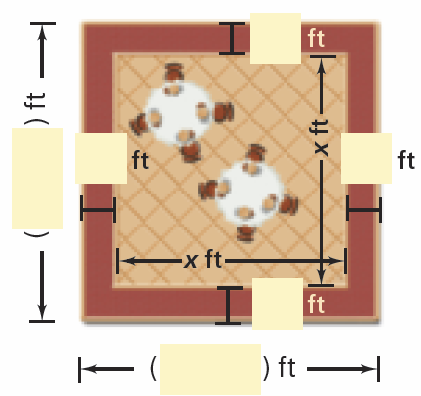
Word Problems!

1. What is the total surface area of a cylinder with radius and height? Write your answer as a polynomial in standard form.

Formula:

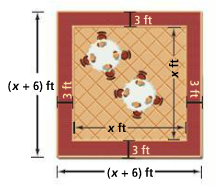
YOU TRY:

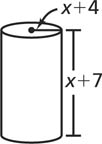




1. A square outdoor patio is surrounded by a brick walkway as shown. Suppose the brick walkway is 4 ft wide. What is its area?

YOU TRY:



1. What is the surface area of the cylinder at the right? Write your answer in simplified form.
2. The radius of a cylindrical popcorn tin is (3*x* + 1) in. The height of the tin is three times the radius. What is the surface area of the cylinder? Write your answer in simplified form.
3. The radius of a cylindrical tennis ball can is (2*x* + 1) cm. The height of the tennis ball can is six times the radius. What is the surface area of the cylinder? Write your answer in simplified form.
4. A medical center’s rectangular parking lot currently has a length of 30 meters and a width of 20 meters. The center plans to expand both the length and the width of the parking lot by 2*x* meters. What polynomial in standard form represents the area of the expanded parking lo

5. The height of a painting is twice its width *x*. You want a 3 inch wide wooden frame for the painting. The area of the frame alone is 216 square inches.

**a.** Draw a diagram that represents this situation.

**b.** Write a variable expression for the area of the frame alone.

**c.** What are the dimensions of the frame?

1. A square brown tarp has a square green patch green in the corner. The side length of the tarp is (*x +* 8) and the side length of the patch is *x*. What is the area of the brown part of the tarp?
2. A square red placemat has a gold square in the center. The side length of the gold square is (*x–* 2) inches and the width of the red region is 4 inches. What is the area of the red part of the placemat?
3. The formula  gives the volume of a sphere with radius *r*. Find the volume of a sphere with radius *x +* 9. Write your answer in standard form