

Section 8.3 Math Link

This worksheet will help you with the Math Link on page 286.

An African talking drum is a two-headed wooden drum with loose-fitting laces connecting the two heads. The player plays the drum with a stick and at the same time, squeezes the laces under his arm to create different sounds. The drum gets its name from these many varied sounds.

Example:

If the diameter of an African talking drum is 20.4 cm, what is the combined area of the two playing surfaces of the drum?

Solution:

What information do I have?

$$d = 20.4 \text{ cm}$$

The radius is half the diameter.

What information do I need?

$$A = ?, r = ?$$

$$r = 20.4 \text{ cm} \div 2$$

$$r = 10.2 \text{ cm}$$

The radius is 10.2 cm.

Use the area formula.

$$A = \pi \times r^2$$

$$A \approx 3.14 \times 10.2^2$$

$$A \approx 3.14 \times 10.2 \times 10.2$$

$$A \approx 326.6856 \text{ cm}^2$$

The area of one playing surface is approximately 326.69 cm².

The area of two playing surfaces would be $2 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

- 1.** If the diameter of an African talking drum is 30.5 cm, what is the combined area of the two playing surfaces of the drum?

What information do I have? _____

What information do I need? _____