

Lesson 5-8 • Group 2

Reinforce Understanding

5.8 Small Group • Group 2

I can find the surface area of a pyramid by adding the base area and the lateral faces, explain why the method works, and use it on a problem I have not seen before.

Worked model

A square pyramid has a base 10 cm on each side. Each triangular face has a slant height of 12 cm. Find the surface area.

1. The net is a square base with 4 congruent triangles, one on each side.
2. Area of the square base. $10 \times 10 = 100$
3. One triangular face uses the slant height. $\frac{1}{2} \times 10 \times 12 = 60$
4. Four faces plus the base. $60 \times 4 = 240$, then $240 + 100 = 340$

Answer: The surface area is 340 square centimeters (340 cm²).

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Find the surface area of each square pyramid.

Complete the table. Show how you found each value.

Pyramid	Base Edge	Slant Height	Base Area	Total SA
Pyramid X	12 in	10 in		
Pyramid Y	8 cm	6 cm		
Pyramid Z	14 ft	11 ft		

Show your work

2. Total lateral area = ? in² (SA – base = 260 – 100).

Use the model to solve. Show your work.

Show your work

Answer: _____

3. Your first gift box is a square pyramid with a base edge of 7 in and a slant height of 9 in. How much wrapping paper (total surface area) covers it?

Circle the letter of the best answer. Show how you know.

- A. 126 in²
- B. 144 in²
- C. 175 in²
- D. 175 in³