

Lesson 5-8 • Apply Day

Reinforce Understanding

Lateral Area of Pyramids

I can find the surface area of a pyramid by adding the base area and the lateral faces.

Worked model

A pyramid has a triangle base with sides of 18 cm. Each of its 3 slanted faces has a slant height of 20 cm.

Find the area of the slanted faces only.

1. The net is one triangle base with 3 slanted triangles around it.
2. Only the slanted faces get covered, so leave the base out of the total.
3. One slanted face. $\frac{1}{2} \times 18 \times 20 = 180$
4. All three slanted faces. $180 \times 3 = 540$

Answer: The slanted faces cover 540 square centimeters (540 cm²).

Practice

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

1. (Lesson 5.7) Find the surface area of a rectangular prism measuring 5 by 3 by 2.

Complete each step, then write the final answer.

1. Add one of each face pair: $15 + 10 + 6 = \underline{\hspace{2cm}}$.
2. Double the three-face sum: $\underline{\hspace{2cm}}$.
3. Label the answer in $\underline{\hspace{2cm}}$ units.

Answer: $\underline{\hspace{4cm}}$

2. (Lesson 5.7) A triangular prism is 6 units long. Its right-triangle base has side lengths 3, 4, and 5. Find the total surface area.

Complete each step, then write the final answer.

1. Find both triangular ends: $2(\frac{1}{2} \times 3 \times 4) = \underline{\hspace{2cm}}$.
2. Add the triangle side lengths: $3 + 4 + 5 = \underline{\hspace{2cm}}$.
3. Find the three rectangles together: $12 \times 6 = \underline{\hspace{2cm}}$.
4. Add the ends and rectangles: $\underline{\hspace{2cm}}$.

Answer: $\underline{\hspace{4cm}}$

3. (Lesson 5.7) Find the surface area of a rectangular prism measuring 7 by 7 by 3.

Complete each step, then write the final answer.

1. Add one of each face pair: $49 + 21 + 21 = \underline{\hspace{2cm}}$.
2. Double the three-face sum: $\underline{\hspace{2cm}}$.
3. Label the answer in $\underline{\hspace{2cm}}$ units.

Answer: $\underline{\hspace{4cm}}$