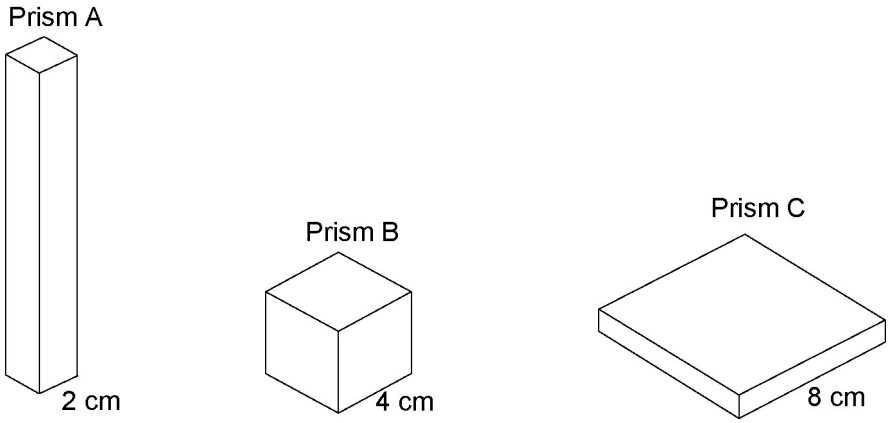
Name: _____ Date: _____

BLM 9.3.2

Practice: Minimize the Surface Area of a Square-Based Prism

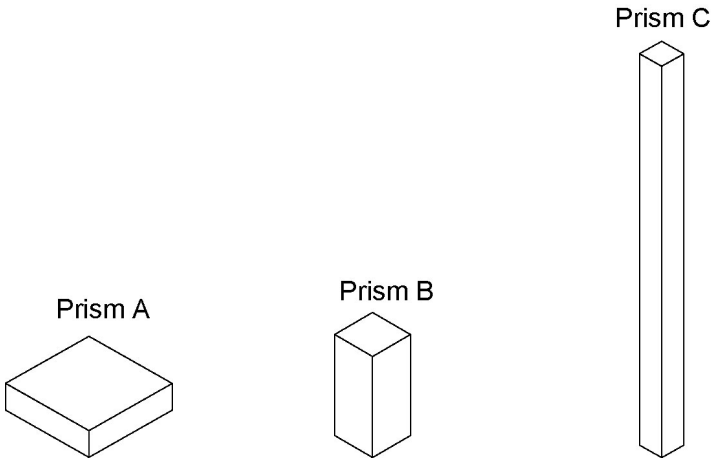
For all questions, round your answer to the nearest tenth of a unit when necessary.

1. Each of these square-based prisms has volume 64 cm^3.



a) Find the height of each prism.
b) Find the surface area of each prism.
c) Order the prisms from least to greatest surface area.

2. Each of these square-based prisms has the same volume. Order the prisms from least to greatest surface area.



3. A square-based prism has volume 512 cm^3.
a) What are the possible whole-number dimensions of the prism?
b) Which dimensions produce the prism with the least surface area?

4. Find the dimensions of the square-based prism with minimum surface area, given each volume.
a) 216 cm^3 **b)** 864 cm^3
c) 111 cm^3 **d)** 1331 cm^3