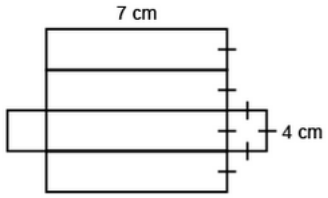
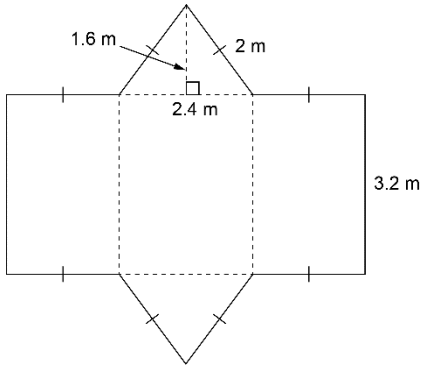
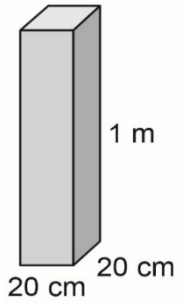
Shape and Space

Lesson 4 Assessment

Determining the Surface Area of Triangular Prisms

Determining the Surface Area of Prisms

Uses nets to calculate surface area by adding the partial areas	Uses nets to show relationship between areas of faces and surface area of right prisms	Determines surface area by visualizing net and adding the areas of its faces	Solves problems involving surface area of right prisms
			The dimensions of a rectangular gift box are 8 cm by 7 cm by 9 cm. How much wrapping paper is needed for this gift?
I added the partial areas. Area of rectangle: 7 cm × 4 cm = 28 cm^2 Area of 4 rectangles: 4 × 28 cm^2 = 112 cm^2 Area of square: 4 cm × 4 cm = 16 cm^2 Area of 2 squares: 2 × 16 cm^2 = 32 cm^2 Surface area of right prism: 112 cm^2 + 32 cm^2 = 144 cm^2	Surface area of right triangular prism = area of 2 congruent triangles + area of 2 congruent rectangles + area of third rectangle = 2(2.4 × 1.6 ÷ 2) + 2(3.2 × 2) + 3.2 × 2.4 = 3.84 + 12.8 + 7.68 = 24.32 The surface area is 24.32 m^2.	The prism has 2 congruent square bases and 4 congruent rectangular faces. Convert 1 m to 100 cm. Surface are of rectangular prism = 2(20 × 20) + 4(20 × 100) = 800 + 8000 = 8800 The surface area is 8800 cm^2.	Surface area of right rectangular prism = 2(8 × 7) + 2(8 × 9) + 2(7 × 9) = 112 + 144 + 126 = 382 The surface area is 382 cm^2. You would need 382 cm^2 of wrapping paper without overlap.

Observations/Documentation