**Part A:** Solve word problems about the volume of rectangular prisms

1) A rectangular fish tank 60 centimeters by 15 centimeters by 34 centimeters is $\frac{1}{3}$ full of water. Find the volume of water needed to fill the tank completely.

2) Find the volume of water needed to fill three fourths of the aquarium.
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Part B: Solve word problems about surface area and volume of non-rectangular prisms

1) A block of wood is a prism and has the dimensions shown in the diagram below.

   a. Find the volume of the block of wood.

   b. Find the surface area of the wooden block.

2) A metal bar has bases that are parallelograms.

   a. Find the volume of the metal bar.

   b. Find the surface area of the metal bar.
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Part C: Solve word problems about prisms with missing dimensions

1) A square prism of height 11 inches has a volume of 539 cubic inches.

   a. Find the length of each side of the square base.

   b. Find the surface area of the prism.

Part D: Solve word problems about non-rectangular prisms with missing dimensions

1) Jacob is making a wooden birdhouse. The birdhouse is a prism with bases that are pentagons, and has the dimensions shown in the diagram. The volume of the prism is 720 cubic inches.

   a. Find the height of the prism.

   b. Find the surface area of the prism.
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2) A candle is a square prism. The candle is 15 centimeters high, and this volume is 960 cubic centimeters.

   a. Find the length of each side of the square base.

   b. Find the surface area of the candle.

3) A storage chest is a prism with bases that are pentagons. The diagram shows some of the dimensions of the storage chest. The volume of the storage chest is 855 cubic inches.

   a. Find the height $AB$ of the prism. Round your answer to the nearest hundredth.

   b. Find the surface area of the prism. Round your answer to the nearest hundredth.