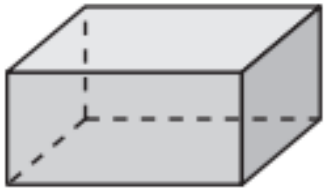| Cornell Notes Topic: **Surface Area and Volume Lessons 8.1, 8.2, 8.3, and 8.4**	Name: _____ Date: _____ Period: _____

Essential Question: How can you draw 3-D figures?; How can you find the area of the entire surface of a prism?; How can you use a net to find the surface area of a pyramid?; How can you find the volume of a rectangular prism with fractional edge lengths?

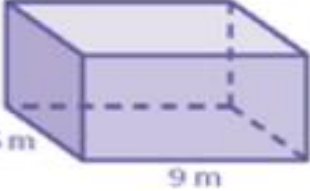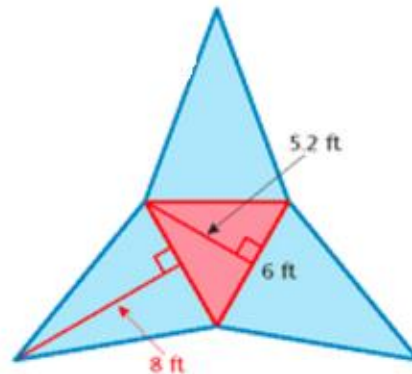| Questions/Main Ideas:	Notes:
Lesson 8.1	**3-D Figures**
Vocabulary	**Solid**- a 3-D figure that encloses a space
	Polyhedron- a solid whose faces are all polygons
	Face- a flat surface of a polyhedron
	Edge- a line where 2 faces meet
	Vertex- points or "corners"
	Prism- a polyhedron that has 2 parallel, identical bases
	Pyramid- a polyhedron that has one base
Example 1	**Finding the Number of Faces, Edges, and Vertices**
Your Turn!	1. Find the number of faces, edges, and vertices of the solid.
Lesson 8.2	**Surface Areas of Prisms**
Vocabulary	**Surface Area**- a solid is the sum of the areas of all its faces
	Net- 2-D representation of a solid that is measured in square units

Table (Example 1):
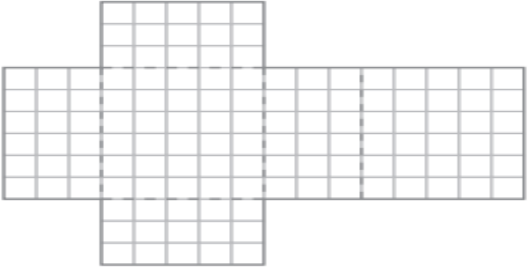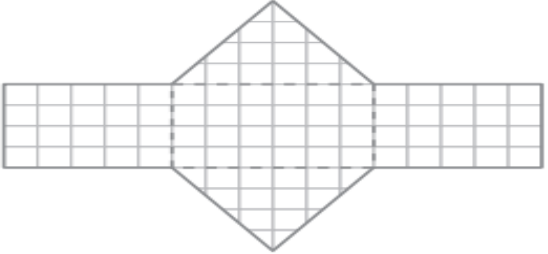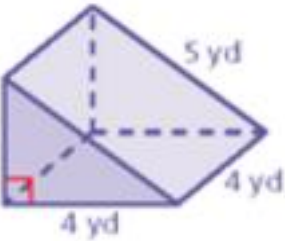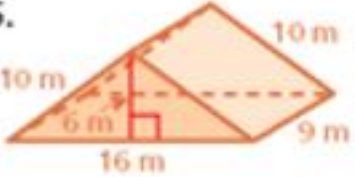
# of Faces	# of Edges	# of Vertices

Example 1	**Finding the Surface Area of a Rectangular Prism**
	Top: **Bottom:** **Front:** **Back:** **Side:** **Side:**
	Total Surface Area:
Example 2	**Finding the Surface Area of a Triangular Prism**
	Bottom: **Front:** **Back:** **Side:** **Side:**
	Total Surface Area:
Your Turn!	Find the surface area of the rectangular prism. **1.** 6 m, 9 m, 5 m **2.** $6\frac{1}{2}$ in., 5 in., 5 in.
	Find the surface area of the triangular prism. **4.** 5 yd, 3 yd, 4 yd, 4 yd **5.** 10 m, 10 m, 6 m, 9 m, 16 m
Lesson 8.3	**Surface Area of Pyramids**
Example 1	**Finding the Surface Area of a Square Pyramid**
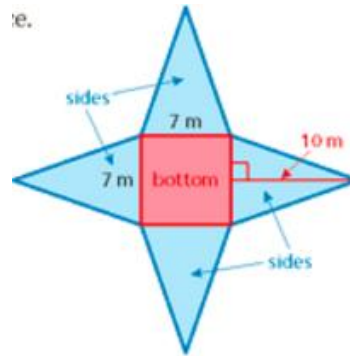
	Bottom: **Side:** **Side:** **Side:** **Side:**	e. sides 7 m 10 m 7 m bottom sides
Example 2	**Finding the Surface Area of a Triangular Pyramid**	
	Bottom: **Side:** **Side:** **Side:**	5.2 ft 6 ft 8 ft
	Total Surface Area:	
Your Turn!	1. 3 ft 2 ft	**Bottom:** **Side:** **Side:** **Side:** **Side:**
	2. 3 cm 1.7 cm 2 cm	**Bottom:** **Side:** **Side:** **Side:**
Lesson 8.4	**Volumes of Rectangular Prisms**	
Vocabulary	**Volume**- amount of space an object can hold	
Formula	**V= L x W x H or V= LWH**	

Example 1	Finding Volumes of Rectangular Prisms
	a. [green rectangular prism: $\frac{5}{8}$ m, $\frac{1}{2}$ m, $\frac{7}{8}$ m] b. [red rectangular prism: $\frac{3}{2}$ in., $\frac{3}{2}$ in., $\frac{3}{2}$ in.]
Example 2	Finding the Missing Dimension of a Rectangular Prism
	[computer tower: h, 16 in., 7 in.] Volume = 1792 in.^{3}
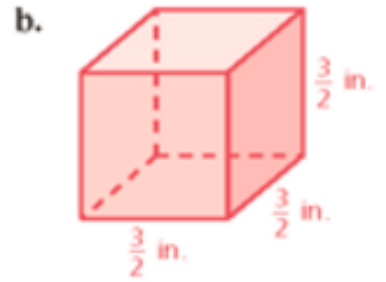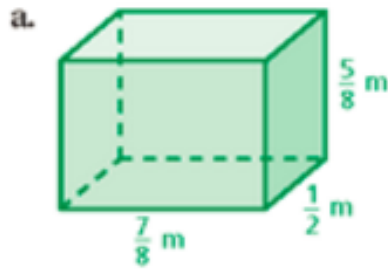
Summary: **Students should write a summary reflecting the above essential question.**