Practice 8.1

Match each solid to its net.

1. F
2. C
3. D
4. E
5. B
6. A

a) b) c)

d) e) f)
Name the solid that can be formed from each net.

7. Square pyramid

8. Cone

9. Cylinder

10. Triangular prism
Solve. Show your work.

11. Tell what cross section is formed when a plane slices a square pyramid as described.
   a) Perpendicular to its base and passes through its vertex. **triangle**
   b) Parallel to its base. **square**

12. The diagram shows a cone and its net.

   a) Copy the net of the cone and label these dimensions on the net.
   b) How is the circumference of the base of the cone related to the curve XY? **they are equal**
13. The diagram shows the net of a cylinder. Which sides of the rectangle have the same length as the circumference of the circular base? sides AB and CD

14. A base of each of the following prism is shaded. Name the shape of the cross section formed when each prism is sliced by a plane parallel to each base. Copy each prism. Sketch the cross sections and label them with the dimensions.

a) 2'x3'

b) 10cm x 4cm
A cross section that is parallel to one of the bases of a rectangular prism is 3 inches wide and 6 inches long. A cross section that is perpendicular to its bases and parallel to two other faces is 4 inches wide and 6 inches long.

What are the dimensions of the rectangular prism?

The area of the base of a square pyramid is 64 square centimeters. Several planes slice through the pyramid parallel to the base to form square cross sections.

a) Besides the cross section formed by a plane slicing the base, how many cross sections parallel to the base can be formed with areas that are perfect squares? $1 \times 1, 2 \times 2, 3 \times 3, \ldots, 8 \times 8$.

b) Find the sum of the area of the base and the areas of the cross sections found in a).

$$1 + 4 + 9 + 16 + 25 + 36 + 49 + 64 = 204 \text{ cm}^2$$