I. Fill in the blank with the best answer. (2 points each)

1. _____ A regular polygon with five sides and five angles.

2. _____ The side opposite the right angle in a right triangle.

3. _____ A pie-shaped section of a circle.

4. _____ A solid with lateral surfaces that are parallelograms and two parallel bases.

5. _____ Any quadrilateral with four sides congruent.

6. _____ A line segment drawn between two points on a circle.

7. _____ The name of a three-dimensional circle.

8. _____ Horizontal lines that measure the north-south distance from the equator.

II.   Find the volume of a shoe box that is 10 inches by 6 inches by 4 inches. (5 points)

III. Find the surface area of a cylinder with a diameter of 10 inches and a height of 6 inches. (5 points)

IV.   Simplify the radical expressions as completely as possible. (4 points each)

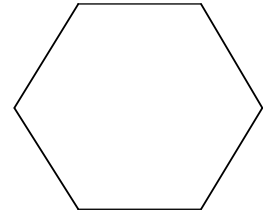1. $\left(2\sqrt{6}\right)\left(5\sqrt{10}\right) =$

2. $3\sqrt{7} - 2\sqrt{71} + 5\sqrt{3} =$

3. $3\sqrt{7} - 2\sqrt{7} + \dfrac{1}{2}\sqrt{7} - \dfrac{3}{2}\sqrt{7} =$

4. $\dfrac{\sqrt{3}}{\sqrt{6}} =$

V. Assume the given polygon is regular. (4 points each)

1. What is the measure of each interior angle?

2. What is the total measure of the exterior angles?

VI. Find the area and the circumference of a circle with a radius of 7 feet, using the fractional equivalent for π. (10 points)

VII. Draw an arc with a radius of 2 inches and a measure of 220º. (5 points)

VIII. Find the surface area of a pyramid with a square base and a slant height of 5 inches. One edge of the square is 4 inches. (5 points)

IX.   Use the diagram below to answer the questions. (3 points each)
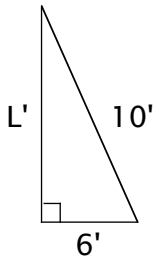
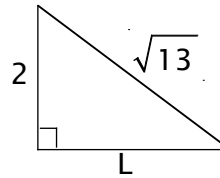1.   What is the measure of minor arc AXC?
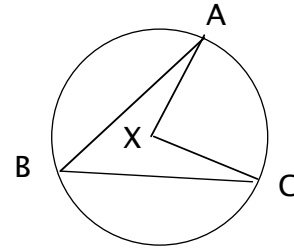
2.   What is the measure of ∠ABC?

Given: X is the center of the circle.
m∠AXC = 82°

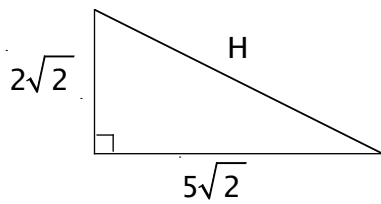X.   State the Pythagorean theorem. (4 points) Use it to find the missing sides in the figures below. (5 points each)

1.

L'   10'

6'

2.

2   √13

L

3.

2√2   H

5√2

4.

H $\frac{1}{\sqrt{2}}$

$\frac{1}{\sqrt{3}}$