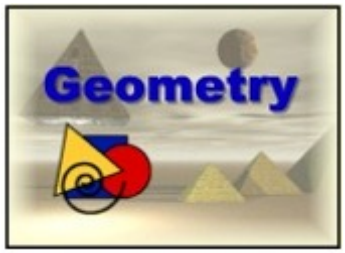


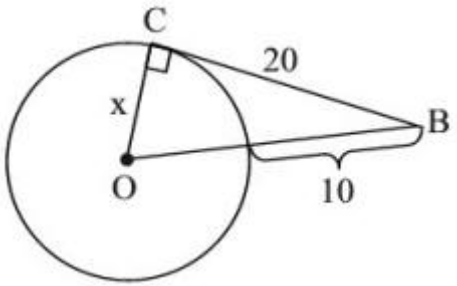
Regents Practice Test 3

Geometry

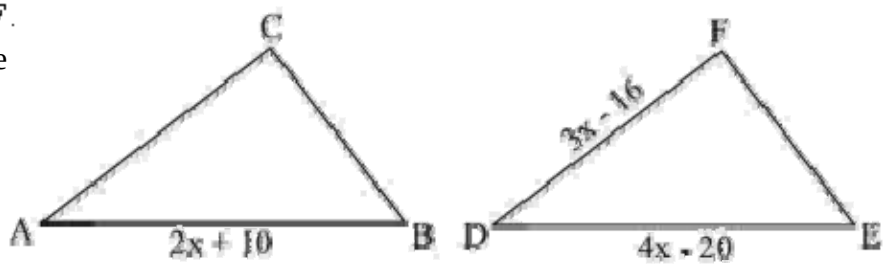
Part II: *Show work on separate paper.*

29. The Great Pyramid of Khufu in Egypt is 751 feet long on each side at the base, and is 450 feet high. Find the volume of this Great Pyramid of Khufu, which is a regular pyramid. In the trapezoid at the right, $AH = 4$, $HB = 16$, $CD = 14$ and $m\angle A = 45^\circ$. Find the area of the trapezoid.

30. Given circle O with tangent $\overline{CB}$. Find the value of x.



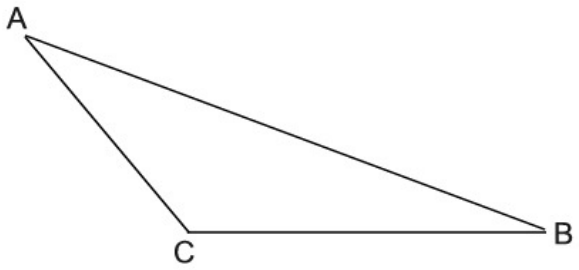
31. Given: $\triangle ABC \cong \triangle DEF$ with $\overline{AB} \cong \overline{DE}$ and $\overline{BC} \cong \overline{EF}$. If the lengths of three of the sides are represented by the expressions shown in the diagram below, find the actual length of $\overline{AC}$.



32. At a certain time of the day, the shadow of a boy 5 feet tall is 8 foot long. The shadow of a tree at this same time is 28 feet long. How tall is the tree to the *nearest foot*?

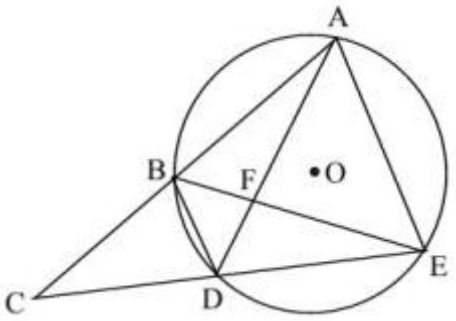
33. A cellular phone company provides services within a 50 mile radius of their headquarters. If this service is represented graphically, with the headquarters located at the coordinates (0,0), write the equation that represents the outer boundary of the service area.

34. Using a compass and straightedge, construct the altitude of triangle *ABC* from point *A*.

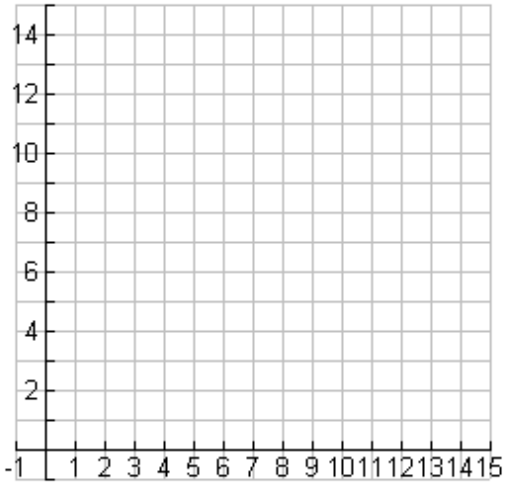


Part III:

35. In circle *O*, $m\overset{\frown}{BD} : m\overset{\frown}{DE} : m\overset{\frown}{EA} : m\overset{\frown}{AB} = 2:3:4:3$.
Segments $\overline{CBA}$, $\overline{CDE}$, $\overline{AD}$, $\overline{BE}$ are straight.
Find $m\angle DFE$.



36. Two signposts are positioned at (0,8) and (12,4). A straight line path is located such that any point on the path is the same distance from the two signposts. Write the equation of the path.



37. A medicine capsule is a cylinder with half spheres on each end. If the length of the cylinder is 12 mm and the radius is 2 mm. If the medicine used to fill the capsule costs \$0.04 per cubic mm, what is the cost, to the *nearest penny*, of the medicine needed to fill thirty capsules?

Part IV:

38. Given: $\triangle ABC$ where $\overline{AB} \ncong \overline{BC}$

$\overline{BD}$ is a median

Prove: $\overline{BD} \not\perp \overline{AC}$