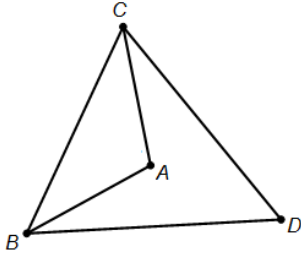


Geometry R – Mr. Bo
Unit 6 – Review

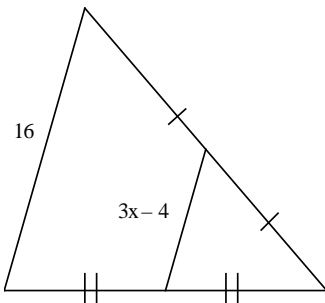
Name: _____
Date: _____

Multiple Choice: *Identify the choice that best completes the statement or answers the question.*

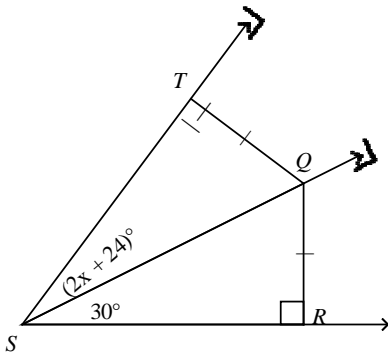
1. Point A is the Circumcenter of $\triangle BCD$. If $m\angle A = 100^\circ$, what is $m\angle ACB$?



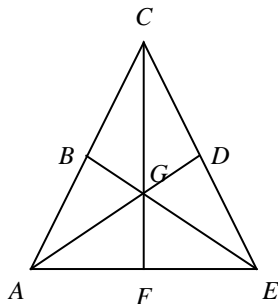
2. Find the value of x .



3. Q is equidistant from the sides of $\angle TSR$. Find the value of x . The diagram is not to scale.



4. In $\triangle AEC$, G is the centroid and $BE = 9$. Find BG and GE .



5. Where can the perpendicular bisectors of the sides of a right triangle intersect?

- I. inside the triangle
- II. on the triangle
- III. outside the triangle

- a. I only b. II only c. I or II only d. I, II, or III

___ 6. For a triangle, list the respective names of the points of concurrency of

- perpendicular bisectors of the sides
- bisectors of the angles
- medians
- lines containing the altitudes.

- | | | | |
|--|--|--|--|
| a. incenter
circumcenter
centroid
orthocenter | b. circumcenter
incenter
centroid
orthocenter | c. circumcenter
incenter
orthocenter
centroid | d. incenter
circumcenter
orthocenter
centroid |
|--|--|--|--|

___ 7. Where can the medians of a triangle intersect?

- I. inside the triangle
- II. on the triangle
- III. outside the triangle

- a. I only b. III only c. I or III only d. I, II, or III

___ 8. Where can the lines containing the altitudes of an obtuse triangle intersect?

- I. inside the triangle
- II. on the triangle
- III. outside the triangle

- a. I only b. I or II only c. III only d. I, II, or III

___ 9. Which segment does not necessarily pass through a midpoint?

- | | |
|---------------------------|---------------|
| a. perpendicular bisector | c. median |
| b. altitude | d. midsegment |

___ 10. Three security cameras were mounted at the corners of a triangular parking lot. Camera 1 was 158 ft from camera 2, which was 121 ft from Camera 3. Cameras 1 and 3 were 140 ft apart. Which camera had to cover the greatest angle?

- a. camera 2 b. camera 1 c. cannot tell d. camera 3

_____ 11. Which three lengths can NOT be the lengths of the sides of a triangle?

a. 23 m, 17 m, 14 m

c. 5 m, 7 m, 8 m

b. 11 m, 11 m, 12 m

d. 21 m, 6 m, 10 m

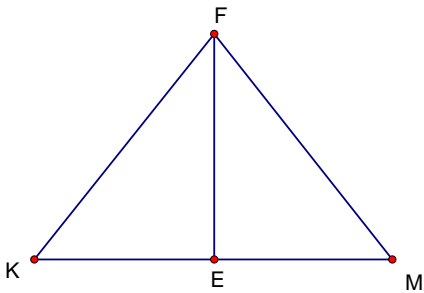
12. Two sides of a triangle have lengths 6 and 8. What length is possible for the third side?

13. Using a compass and straight edge, construct a triangle and its circumcenter such that the **circumcenter lies outside** of the triangle.

14. Use a compass and straight edge to construct a triangle and its centroid such that **the centroid lies inside** the triangle.

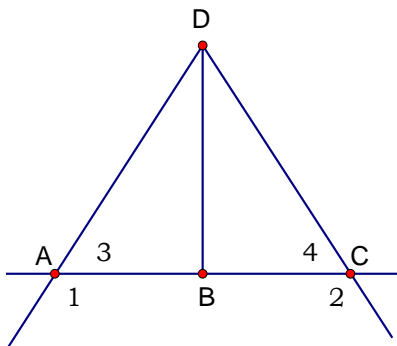
14. Given: $\overline{KF} \cong \overline{MF}$
 \overline{FE} bisects $\angle KFM$

Prove: \overline{FE} is a median of $\triangle KFM$



15a. Given: $\angle 3 \cong \angle 4$
 \overline{DB} is an Altitude of $\triangle ACD$

Prove: B is midpoint of \overline{AC}



b. Is \overline{DB} a perpendicular bisector? Justify your reasoning.