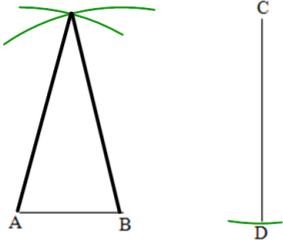


Constructions Review

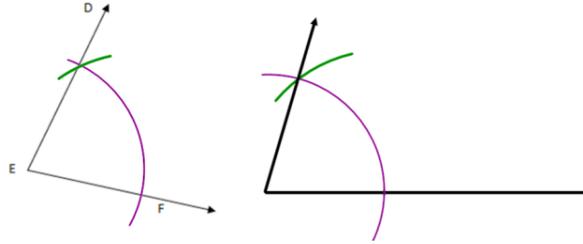
Construction Skills You Know

For questions 1-4, identify the following constructions:

1. _____

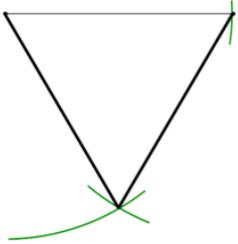


2. _____



- A. Angle Bisector
- B. Segment Bisector
- C. Line of Reflection
- D. Isosceles Triangle
- E. Equilateral Triangle
- F. Congruent Segment
- G. Congruent Angle
- H. Perpendicular Line
- I. Parallel Line
- J. Centroid
- K. Orthocenter
- L. Incenter (Inscribed \odot)
- M. Circumcenter (Circumscribed \odot)

3. _____

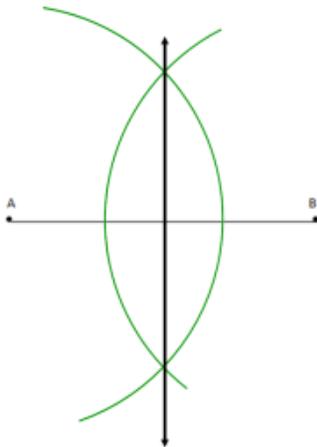


4. _____



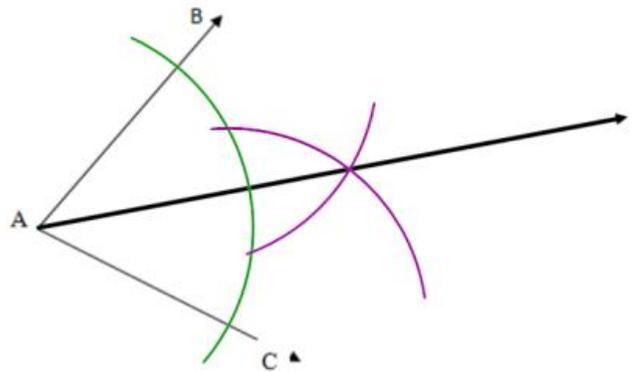
For questions 5 and 6, identify the following construction. Then draw in and explain the important resulting relationships for each one:

5. _____



Explanation of resulting relationship:

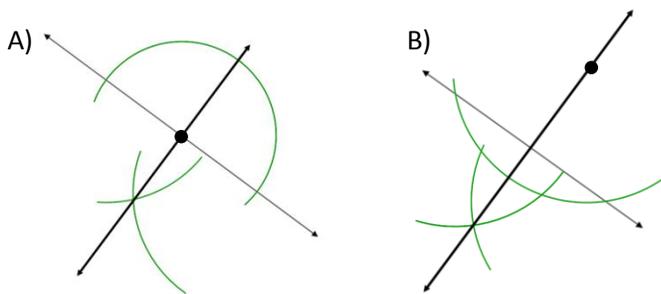
6. _____



Explanation of resulting relationship:

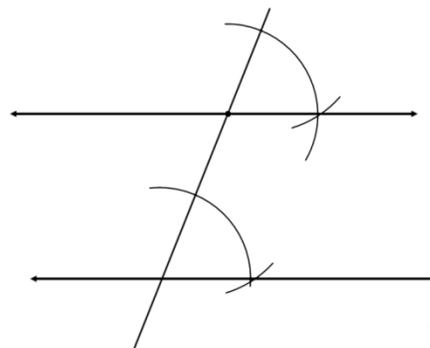
7. The constructions at right both show the construction of a _____ line.

a. Explain the difference between the two:



b. Which one would you use in order to construct an altitude of a triangle? Why?

8. The construction shown is of a parallel line through a given point. Explain why this construction ensures the lines are parallel:

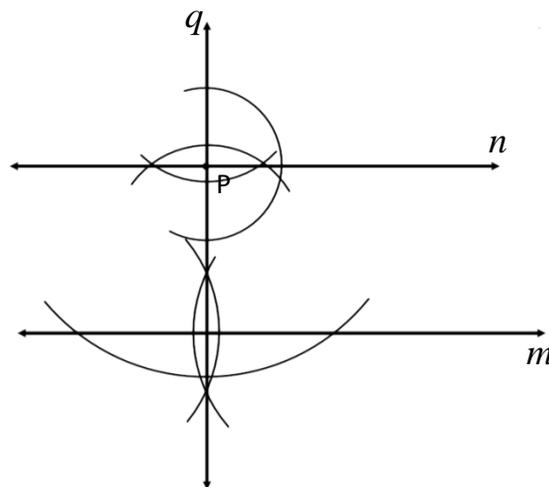


9. Fill in the justification for the steps used to construction line $n \parallel$ line p through point P .

1) Line q is ___ to line m .

2) Line q is ___ to line n .

3) Therefore line n is parallel to line m because



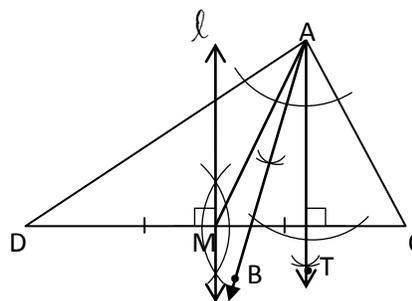
10. Given $\triangle ACD$, precisely name the following:

\perp Bisector _____

Median _____

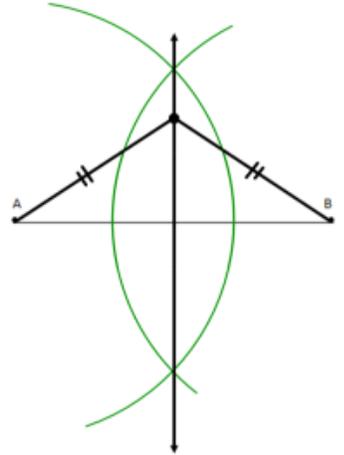
Altitude _____

\sphericalangle Bisector _____

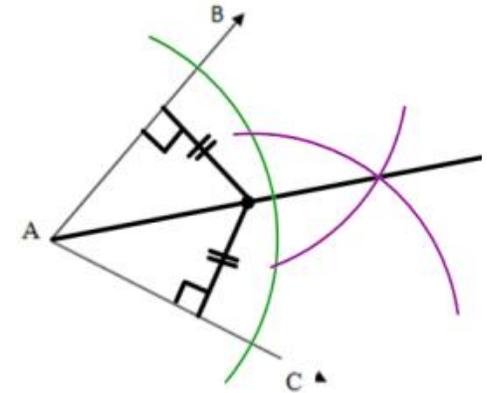


MIDTERM REVIEW CONSTRUCTIONS ANSWER KEY

1. Isosceles Triangle
2. Congruent Angle
3. Equilateral Triangle
4. Congruent Segment
5. Segment Bisector – a point on the perpendicular bisector of a segment is equidistant to the endpoints of the segment (CPCTC from $SAS \cong SAS$).



6. Angle Bisector – a point on the angle bisector is equidistant (draw in perpendicularly) to the angle's side rays (CPCTC from $AAS \cong AAS$).



7. Perpendicular
 - a. The given point is different. A) is perpendicular to a given line from a given point ON the line versus B) is perpendicular to a given line from a point OFF the line.
 - b. Use B) a given point OFF the line because an altitude connects a vertex perpendicular to the opposite side.
8. Because copying the angle created congruent corresponding angles, the lines cut by the transversal are parallel.
9. 1) Perpendicular
2) Perpendicular
3) ...Parallel lines are perpendicular to the same line OR ...Lines that are perpendicular to the same line are parallel to each other.

10. Perpendicular Bisector: Line l

Altitude: \overrightarrow{AT}

Median: \overline{AM}

Angle Bisector: \overrightarrow{AB}