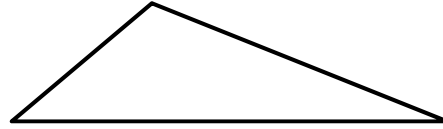# Chapter 5 Test Review

1. Draw a midsegment for this triangle.

2. What two things are true about your midsegment and the side of the triangle that it doesn't touch?
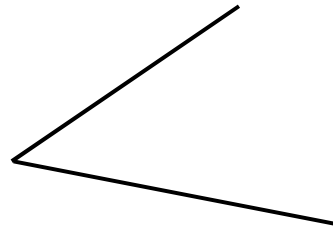
3. Draw a perpendicular bisector for this segment.

4. Fill in the blank: If a point is on the perpendicular bisector of a segment, then it is _____ from the endpoints of the segment.
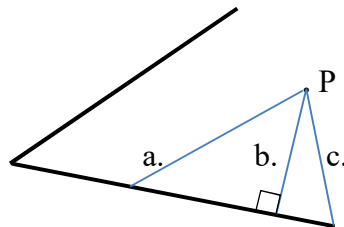
5. Write the converse of the statement in Problem 4.

6. Draw the angle bisector for this angle.

7. Fill in the blank: If a point is on the bisector of an angle, then the point is _____ from the sides of the angle.

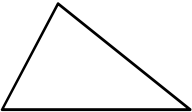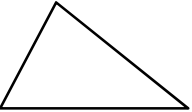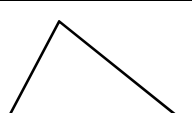8. Which line shows the distance from Point P and the side of the angle?

   a.     b.   c.

   P

9. What does "concurrent" mean?   Draw three concurrent lines.

10. Fill in the blanks:
   a. A midsegment goes from _____ to _____.

   b. A median goes from _____ to _____.

   c. An altitude goes from _____ and is perpendicular to the opposite side.

   d. A perpendicular bisector goes from _____, bisects the side, and is perpendicular to it.

   e. An angle bisector goes from _____ and bisects the angle.

11. Complete the chart:

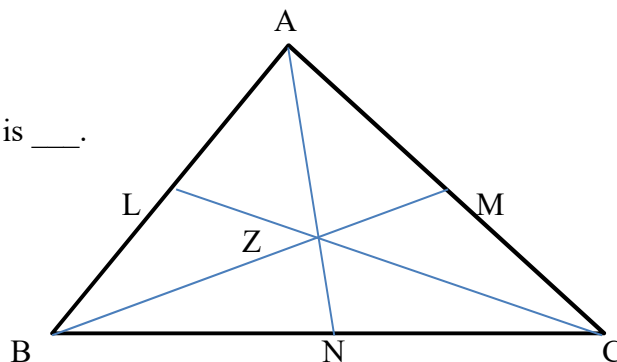| Type of Line | Draw the line | Name of Center | Purpose of Center |
|---|---|---|---|
| Perpendicular bisector | | | |
| Angle bisector | | | |
| Median | | | |
| Altitude | | | |

12. Where is the circumcenter of a right triangle *ALWAYS* located?

13. The medians of a triangle are concurrent at a point that is _____ of distance from the vertex to the midpoint of the opposite side.
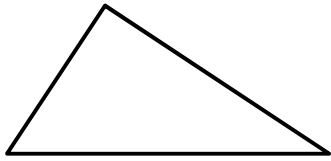
14. The lines inside the triangle are medians.
    Find the length of each segment:
       a.  If AN is 12, then AZ is _____ and ZN is ___.
       b.  If MC is 8, AC is _____.
       c.  If LZ is 5, ZC is ___.
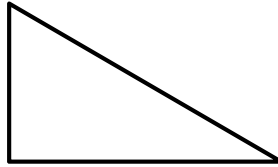
14. Draw the altitude to the base for each triangle.
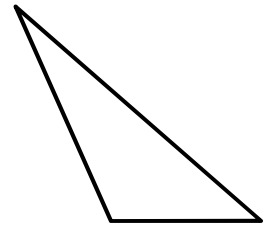    a. Acute                    b. Right                    c. Obtuse

15. Write the inverse and contrapositive of this statement:
         If I study hard for the Geometry test, then I will do well.

Inverse:

Contrapositive:

16. Write the first step of an indirect proof for each statement.
    a. It is dark outside.

    b. Triangle KLM is a right triangle.

    c. The Cowboys can't win the Superbowl.

17. Write an indirect proof to prove this statement: An obtuse triangle cannot have a right angle.

18. Fill in the blank: An exterior angle of a triangle is always larger than the measure of either
    _____.

19. Where is the largest angle in a triangle?

20. Where is the longest side of a triangle?

21. A triangle has one side 9 feet long and other side that is 14 feet long. The length of the third side is a whole number.

    a. What is the smallest length possible for the third side?

    b. What is the longest length possible for the third side?