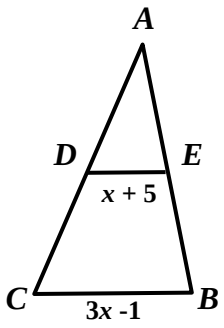
Math 2 Unit 4 **Name:**_____
Review Worksheet **Date:**_____ **Per:**_____

[1-2] Use the figure to the right to answer the questions.

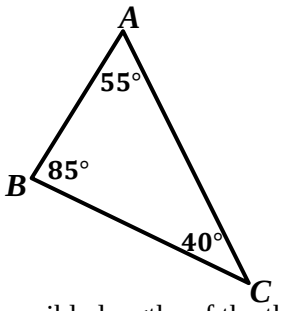


1. $\overline{DE}$ is a midsegment of ΔABC. If $DE = x + 5$ and $CB = 3x - 1$, find the value of x.

2. $\overline{DE}$ is a midsegment of ΔABC. If $AD = 15$ and $AE = 14$, find the value of AB.

3. Multiple Choice: Which group of side lengths can be used to construct a triangle? Show work.
   a) 5 in, 8 in, 15 in b) 10 cm, 12 cm, 20 cm c) 15 in, 10 in, 25 in d) 18 cm, 2 cm, 15 cm

4. List the order from shortest to longest side in triangle ΔABC.



5. The lengths of two sides of a triangle are 41 and 23. What are the possible lengths of the third side?

6. Match the line with the correct description.

1. Perpendicular Bisector_____	a. From a midpoint to the opposite vertex
2. Angle Bisector_____	b. Bisects an angle
3. Median_____	c. Perpendicular to a side and goes through the opposite vertex
4. Altitude_____	d. Perpendicular line through the midpoint of a side

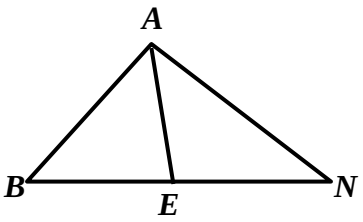
7. $\overline{AE}$ is a **median** in ΔBAN. Are the below statements True or False?

   a. $\overline{AB} \cong \overline{AN}$ _____

   b. $\angle B \cong \angle N$ _____

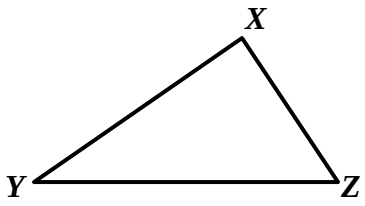
   c. $\overline{BE} \cong \overline{EN}$ _____

   d. $\angle BAE \cong \angle NAE$_____

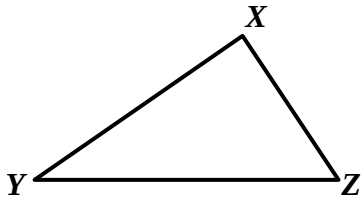


[8-11] Use the given triangles to draw a segment showing the following:

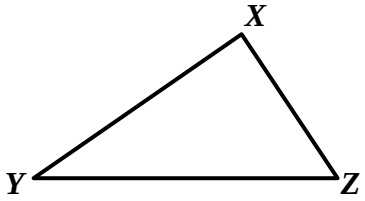
8. Altitude



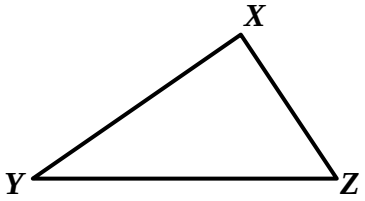
9. Angle Bisector



10. Perpendicular Bisector



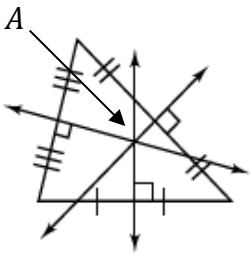
11. Median

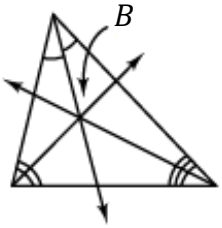


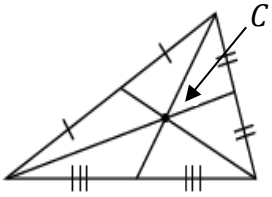
12. What is the name of the intersecting lines in the triangle? What is the name of the point of concurrency?

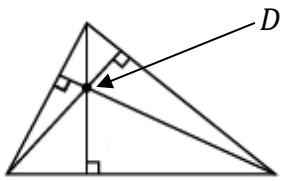
A._____&_____ B._____&_____

C._____&_____ D._____&_____



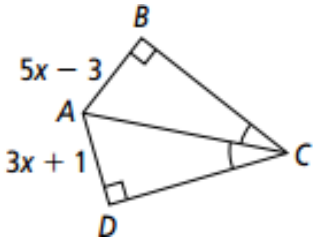






13. Find $\overline{AD}$

$\overline{AD} =$ _____

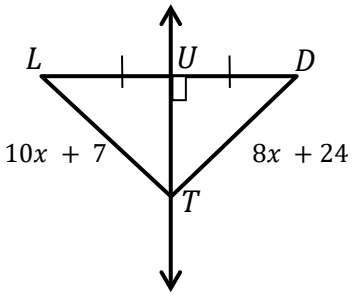


14. Find x, LT and DT

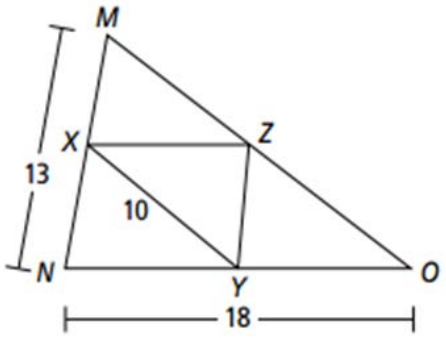
$x =$ _____

$LT =$ _____

$DT =$ _____



15. X is the midpoint of $\overline{MN}$. Y is the midpoint of $\overline{ON}$. Z is the midpoint of $\overline{MO}$

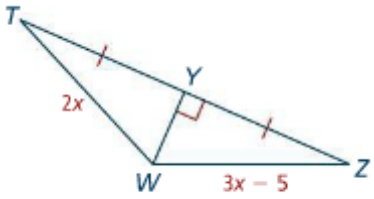


Find $XZ =$ _____

If $XY = 10$, find MO.
$MO =$ _____

If $NO = 18$, and $MN = 13$ find MX.
$MX =$ _____

16. Using the figure to the right, find x, TW and WZ

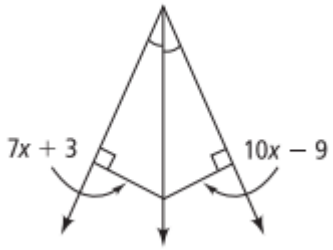


$x =$ _____

$TW =$ _____

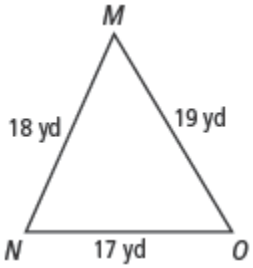
$WZ =$ _____

17. Using the figure to the right, find the value of x.

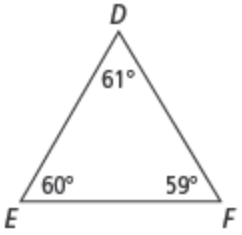


$x =$ _____

18. Which is the smallest angle in ΔMNO?

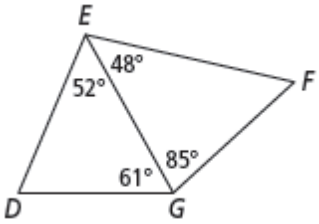


19. Order the sides of ΔDEF from shortest to longest.

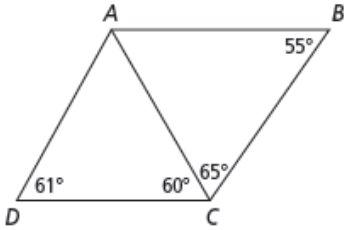


20. Which segment in each figure would be the shortest?

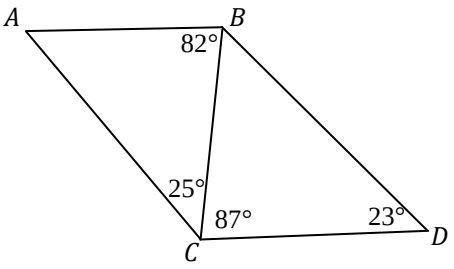
a) _____



b) _____

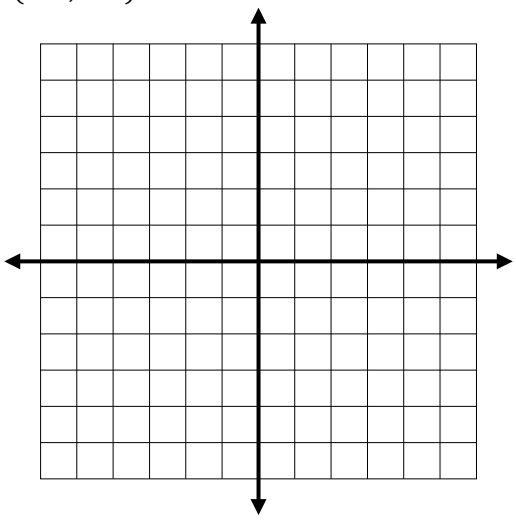


c) _____



21. Two sides of a triangle are 5 inches and 10 inches long. What is the range of possible lengths for the third side?

22. The coordinates of the vertices of a triangle are $A\ (-2, 3\ )$, $B\ (0, -5\ )$, $C\ (-4, -1\ )$.



a) Plot and label the above points on the graph.

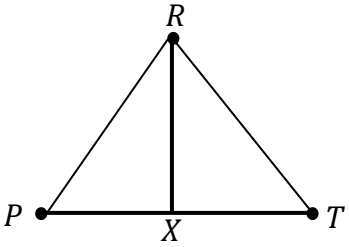
b) Find and label the points on the graph for, the coordinates of D, the midpoint of $\overline{AC}$,
coordinates of E, the midpoint of $\overline{CB}$,
coordinates of F, the midpoint of $\overline{AB}$

c) Using slopes show that each midsegments is parallel to a side.

d) Using distance formulas show that each midsegment is half the side length.

23. Make a two-column proof.

Given: $\overline{RP} \cong \overline{RT}$
$\overline{RX}$ is a median
Prove: $\angle PRX \cong \angle TRX$



Statement	Reason