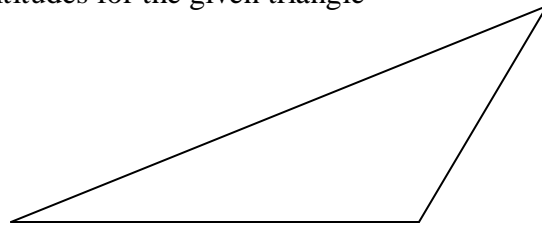


- *20 questions
- *Calculators allowed
- *Show all work/steps- use separate paper
- *Recommend time frame 30min -45min

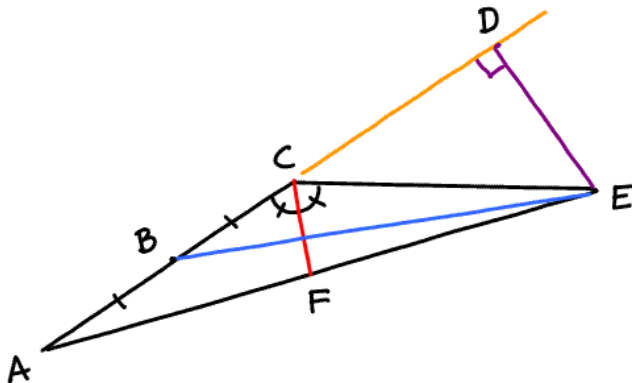
Provide complete explanations in your responses.

Medians, Altitudes and Bisectors

1. Draw two altitudes for the given triangle



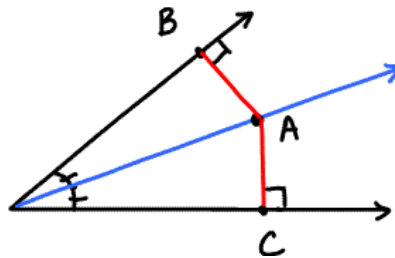
2. An angle is bisected into two equal angles that measure $(2x + 1)$. What is the measure of the bisected angle in terms of x ?
3. Name a median, altitude and angle bisector for the given diagram.



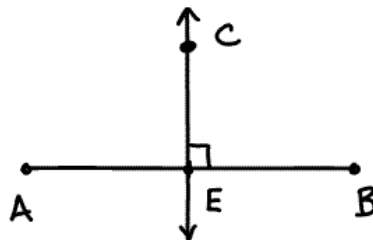
4. _____ of a line segment is a line (or ray) that is perpendicular to the segment at its midpoint.

Bisector Theorems

5. What can you determine about relationship between points A, B and C?

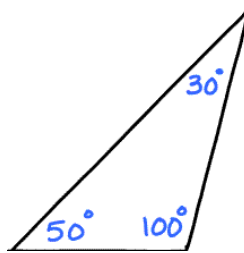


6. If $AE \cong EB$ what can you determine about the type of triangle formed by points ACB ?

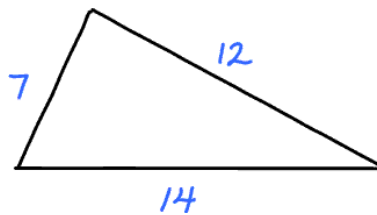


Triangle Inequalities

7. What does the Triangle Inequality say about the sides of a triangle?
8. What does the Triangle Inequality say about the angles in a triangle?
9. Can a triangle be formed by three sides that measure 5, 9, and 7? Explain
10. Can a triangle be formed by three sides that measure 6, 18, and 10? Explain
11. Identify the longest and shortest side of the triangle.



12. Identify the largest and smallest angle in the triangle.



Triangles and Angles

13. A triangle where all three sides have different lengths is called?
14. The angles of a triangle are $2x$, $(3x + 1)$ and $(5x - 2)$, find the value of x .
15. What is the angle measure of each angle in an equilateral triangle?
16. What is the vertex of $\angle ABC$?

17. Can a triangle have two obtuse angles? Explain.
18. Two triangles have the same respective angle measure- can one conclude that the sides of triangles must have the same lengths? Explain.
19. A straight angle has an angle measure of _____?
20. True/False: A triangle is a polygon?