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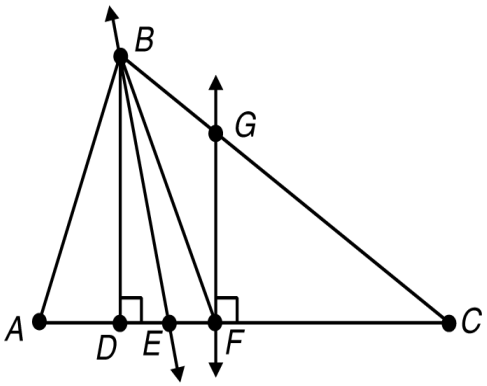
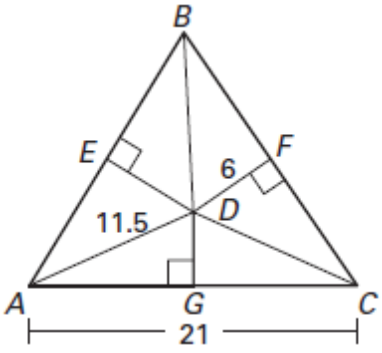
Chapter 5 Review



Use the diagram above

Given: $\overline{AF} \cong \overline{FC}$, $\angle ABE \cong \angle EBC$

1. Which line is a perpendicular bisector in ΔABC _____
2. Which line is a median of ΔABC _____.
3. Which line is an altitude of ΔABC _____.
4. Which line is an angle bisector of ΔABC _____.
5. **Use the diagram to find the indicated measures**

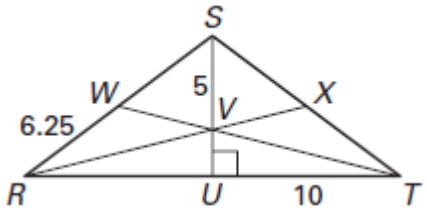


The perpendicular bisectors of $\triangle ABC$ meet at point D. Find BD.

Find DC.

6. **Use the diagram and the given information.**

V is the centroid of $\triangle RST$. $\overline{SU} \perp \overline{RT}$, $UT = 10$, $RW = 6.25$, $SV = 5$, and $RS = TS$.



Find ST.

Find UV

Find SU.

Find the perimeter of $\triangle RST$.

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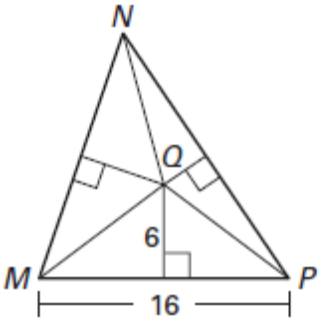
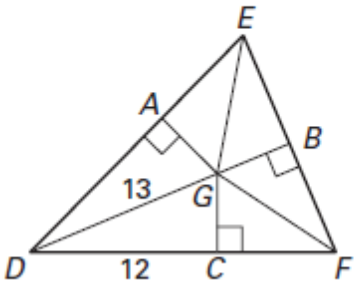
7. The perpendicular bisectors of $\triangle MNP$ meet at Q. Find QN.



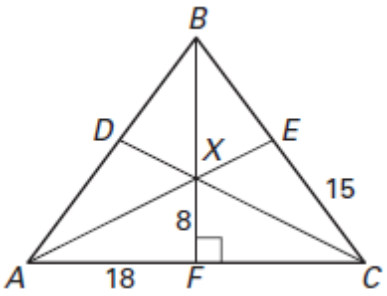
8. The angle bisectors of $\triangle DEF$ meet at G. Find GB.



9. Use the **diagram and the given information to answer the following questions.**

8.

X is the centroid of $\triangle ABC$, $\overline{BF} \perp \overline{AC}$, $XF = 8$, $EC = 15$, $AF = 18$, and $\overline{AB} \cong \overline{BC}$. (5.3)



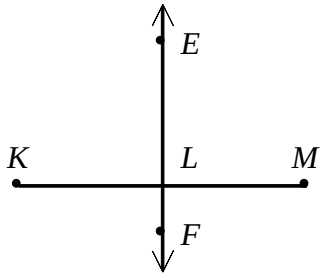
Find the length of $\overline{BX}$.

Find the length of $\overline{FC}$.

Find the length of $\overline{BC}$.

Find the perimeter of $\triangle ABC$.

10. Given: $\overleftrightarrow{EF}$ is the perpendicular bisector of $\overline{KM}$. Name three things that you can conclude.



11. The circumcenter of a triangle is equidistant from the three ____ of the triangle.

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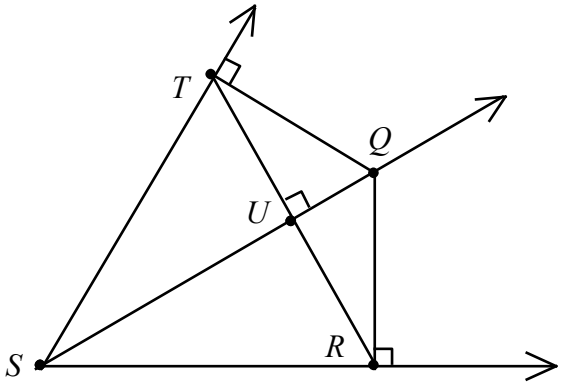
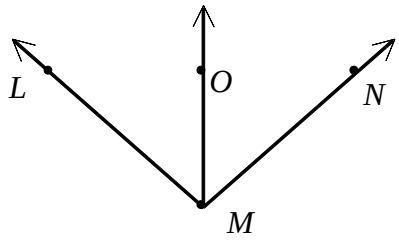
12. Given: $\overrightarrow{SQ}$ bisects $\angle RST$. Find QR if $UT = 15$ and $UQ = 36$. (not drawn to scale)



13. In the figure (not drawn to scale), $\overrightarrow{MO}$ bisects $\angle LMN$, $m\angle LMO = 15x - 21$, and $m\angle NMO = x + 63$. Solve for x and find $m\angle LMN$.



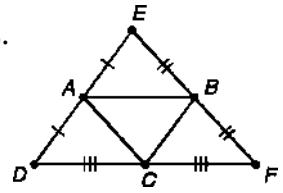
14. The angle bisectors of a triangle are concurrent at a point called the _____.

15. The medians of a triangle are concurrent. Their common point is called what?

16. The altitudes of a triangle are concurrent. What is the name of their common point?

17. In a triangle, a segment connecting the midpoints of two sides of the triangle is called a _____.

18. For the given triangle, state the relationships between CB and DE.



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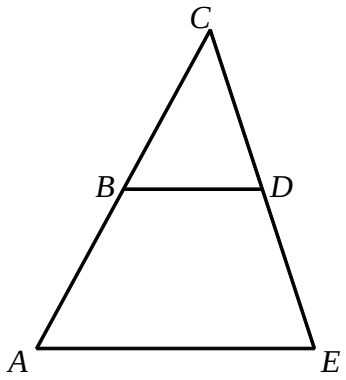
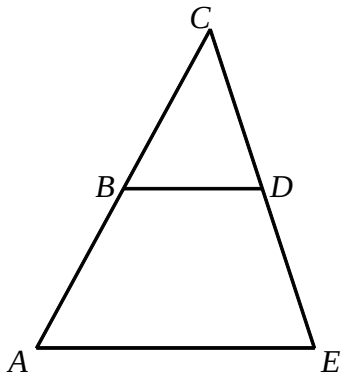
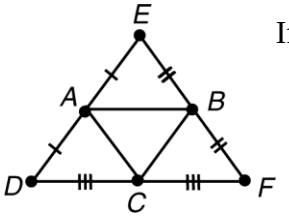
19. Solve for *x* given $BD = 2x + 2$ and $AE = 6x - 6$. Assume *B* is the midpoint of $\overline{AC}$ and *D* is the midpoint of $\overline{CE}$.



20. Solve for *x* given $BD = 3x + 2$ and $AE = 4x + 8$. Assume *B* is the midpoint of $\overline{AC}$ and *D* is the midpoint of $\overline{CE}$.

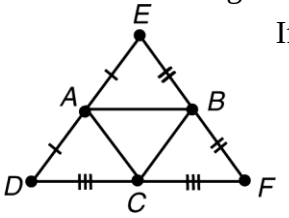


21. Refer to the figure below.



If *EF* =10x - 6 and *AC* = 3x + 1, then what is the length of $\overline{BF}$?

22. Refer to the figure below.



If *EF* = 5*x* + 6 and *AC* = 3*x* – 2, then what is the length of $\overline{BF}$?

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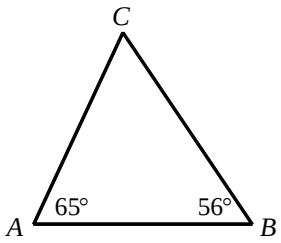
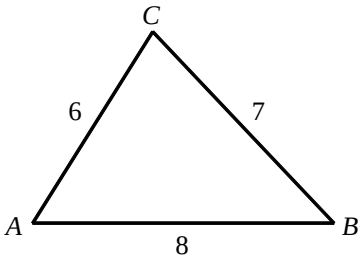
23. List the angle and sides of ΔABC from least to greatest



24. List the angle and sides of ΔABC from least to greatest



25. What are the possible lengths of a the third side, *x* if two sides of a triangles have sides lengths of:

A: 3 and 13 B: 24 and 32

26. Which side lengths allow you to construct a triangle?

[A] 2, 3, and 8 [B] 6, 8, and 10 [C] 4, 1, and 9 [D] 7, 2, and 2

27. Two sides of a triangle have lengths 8 and 11. What are the possible lengths of the third side *x*?

28. Two sides of a triangle have lengths 7 and 13. The third side has a length that is _____.

29. Which of these lengths could be the sides of a triangle?

[A] 13 cm, 19 cm, 4 cm [B] 19 cm, 9 cm, 11 cm

[C] 19 cm, 13 cm, 5 cm [D] 9 cm, 19 cm, 10 cm

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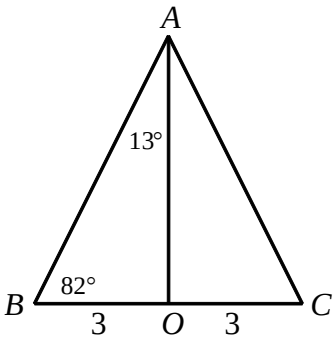
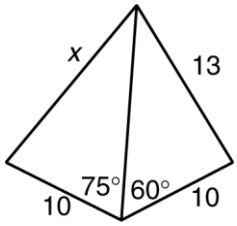
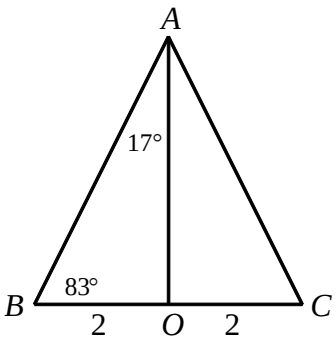
30. Find the appropriate symbol to place in the blank. (not drawn to scale) *AB* __ *AC*



31. Refer to the figure below. Use Hinge Theorem to solve for the possible values of x.



32. Which is the appropriate symbol to place in the blank? (not drawn to scale)
AB __ *AC*



[A] > [B] = [C] < [D] not enough information