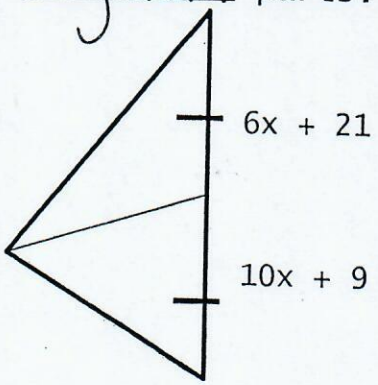
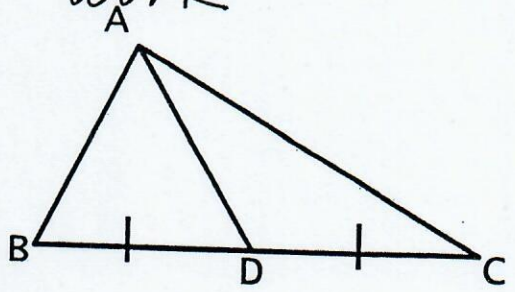
Special Lines in Triangles Reference

Show all work

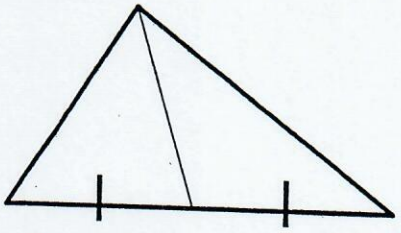
A Median . . .

- Originates inside of the triangle at a vertex
- Connects the vertex to the midpoint of the opposite side
- Divides the side into two congruent parts.



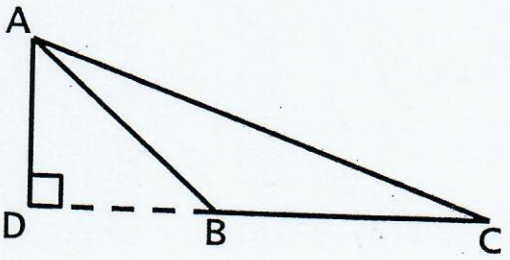


If $\overline{AD}$ is the median of ΔABC, then $\overline{BD} \cong \overline{CD}$.



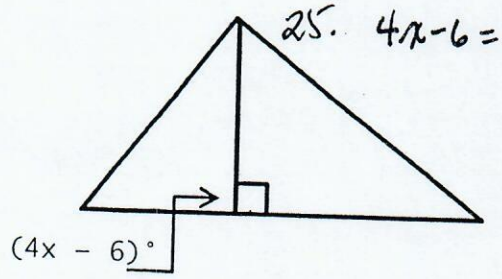
An Altitude . . .

- Originates inside of the triangle at a vertex
- Connects the vertex to the line containing the opposite side at a 90 degree angle
- Is not always contained within the triangle (some altitudes are legs of a right triangle and outside of an obtuse triangle).

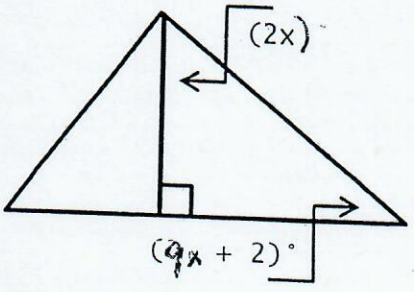


If $\overline{AD}$ is the altitude of ΔABC, then $m\angle ADB = 90°$.

25. $4x - 6 = 90$

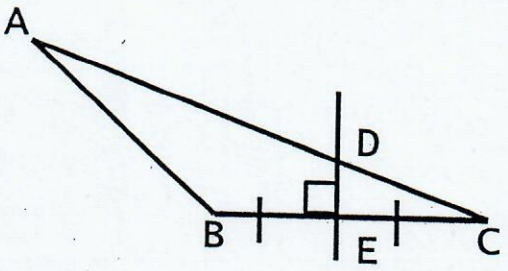


26. $2x + 9x + 2 = 90$



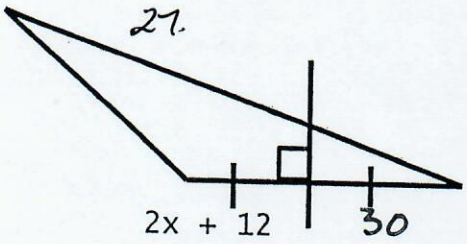
A Perpendicular Bisector. . .

- Originates inside of the triangle at a vertex OR outside of the triangle.
- Intersects a side at its midpoint forming a 90 degree angle.
- Divides the side into two congruent segments.
- The acute angles of the right triangle formed are complimentary

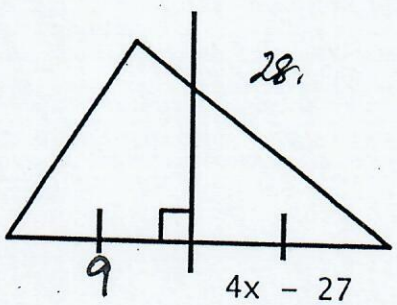


If $\overline{DE}$ is a perpendicular bisector of ΔABC, then $\overline{DE} \perp \overline{BC}$ and $\overline{BE} \cong \overline{CE}$.

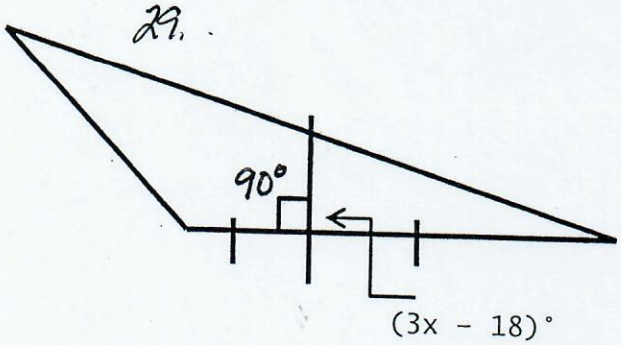
27.



28.

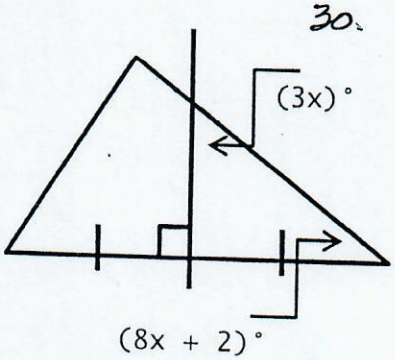


29.



$3x - 18 = 90$

30.



$3x + 8x + 2 = 90$

Geometry Name_____ ID: 1

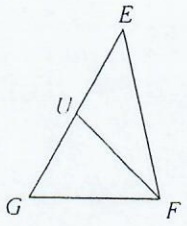
Special Segments in Triangles - At home review

Date_____ Period____

Each figure shows a triangle with one or more of its medians.

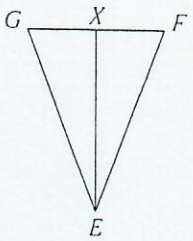
Total 30 problems
Do 3 a day.

1) Find EG if $UG = 4$



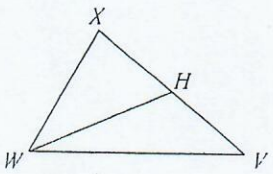
A) 5.33 B) 4
C) 8 D) 16

2) Find FG if $XG = 0.5$



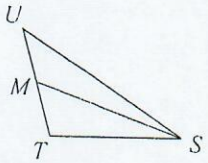
A) 0.33 B) 1
C) 2 D) 0.67

3) Find HV if $HX = 2.6$



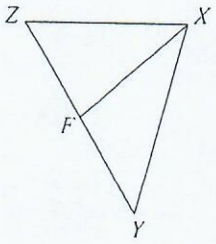
A) 0.87 B) 7.8
C) 2.6 D) 5.2

4) Find MT if $UT = 2$



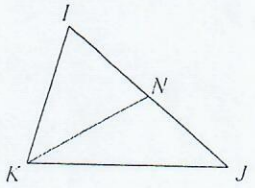
A) 0.67 B) 1
C) 0.5 D) 2

5) Find FZ if $FY = 3.5$



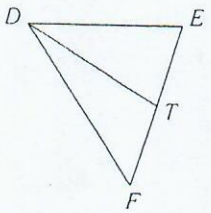
A) 5.25 B) 7
C) 2.33 D) 3.5

6) Find NJ if $NI = 2.2$



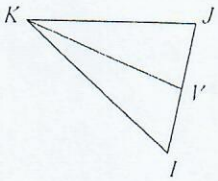
A) 4.4 B) 2.2
C) 3.3 D) 1.1

7) Find TE if $FE = 10$



A) 7.5 B) 5
C) 2.5 D) 15

8) Find VJ if $IJ = 14$

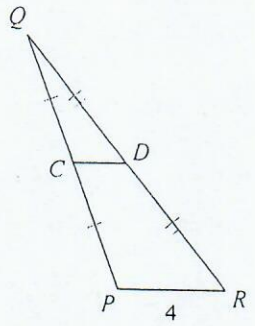


A) 7 B) 3.5
C) 10.5 D) 14

Find the missing length indicated.

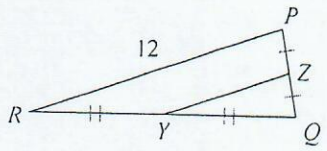
4

9) Find CD



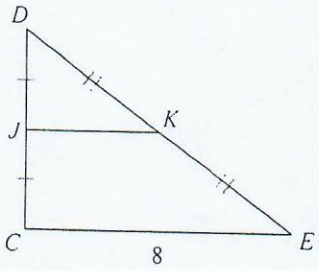
A) 1 B) 5
C) 2 D) 12

10) Find ZY



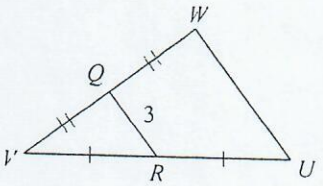
A) 3 B) 6
C) 4 D) 5

11) Find JK



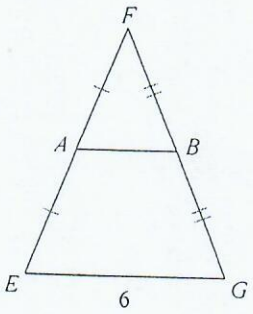
A) 6 B) 2
C) 4 D) 1

12) Find UW



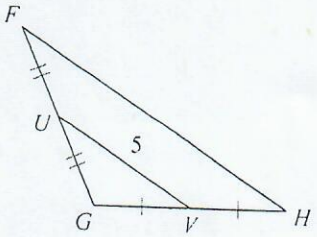
A) 8 B) 10
C) 6 D) 2

13) Find AB



A) 12 B) 2
C) 4 D) 3

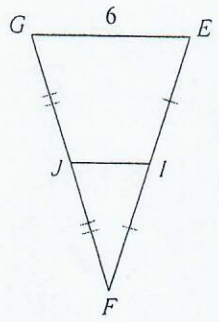
14) Find HF



A) 3 B) 10
C) 4 D) 5

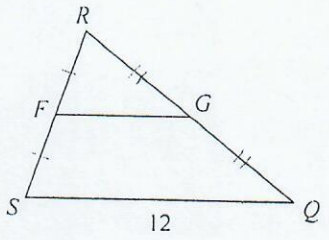
5

15) Find IJ



A) 10 B) 3
C) 6 D) 5

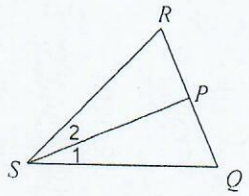
16) Find FG



A) 2 B) 8
C) 6 D) 5

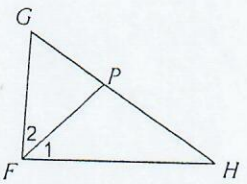
Each figure shows a triangle with one of its angle bisectors.

17) $m\angle QSR = 46°$. Find $m\angle 2$.



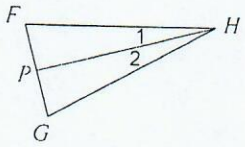
A) 11.5° B) 92°
C) 46° D) 23°

18) $m\angle HFG = 86°$. Find $m\angle 1$.



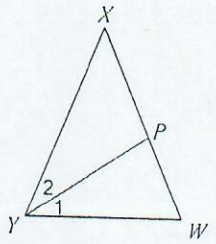
A) 172° B) 43°
C) 86° D) 21.5°

19) $m\angle 1 = 14°$. Find $m\angle 2$.



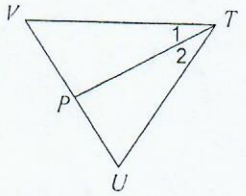
A) 28° B) 14°
C) 7° D) 180°

20) $m\angle 2 = 34°$. Find $m\angle WYX$.



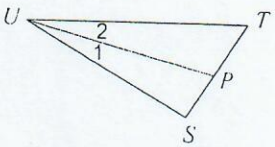
A) 102° B) 68°
C) 17° D) 34°

21) Find $m\angle 1$ if $m\angle 2 = 28°$.



A) 180° B) 14°
C) 28° D) 56°

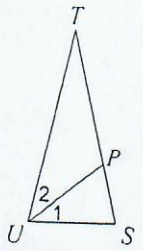
22) Find $m\angle 1$ if $m\angle SUT = 30°$.



A) 30° B) 15°
C) 60° D) 7.5°

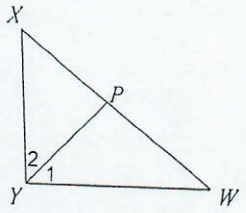
6

23) $m\angle 1 = 38°$. Find $m\angle SUT$.



A) 38° B) 114°
C) 19° D) 76°

24) Find $m\angle WYX$ if $m\angle 2 = 46°$.



A) 138° B) 23°
C) 46° D) 92°