

Name:

Key

Date:

Period:

HW #6-11: Test Review Packet

1. A point that is the same distance from two or more objects is equidistant from the objects.
2. A midsegment is a segment that joins the midpoints of two sides of the triangle.
3. The point of concurrency of the angle bisectors of the triangle is the incenter.
4. Write an equation in slope-intercept form for the perpendicular bisector of the segment with endpoints at $X(3, 2)$ and $Y(5, 10)$.

$$y = -\frac{1}{4}x + 7$$

5. Find the circumcenter of the triangle with vertices $M(0, 6)$, $N(8, 0)$ and $O(0, 0)$.

$$(4, 3)$$

6. The coordinates of a triangular piece of a mobile are $(0, 4)$, $(3, 8)$ and $(6, 0)$. The piece will hang from a chain so that it is balanced. At what coordinates should the chain be attached?

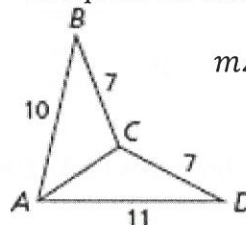
$$(3, 4)$$

7. Write an indirect proof that a triangle cannot have two obtuse angles.

Temp. assume that a $\triangle$ can have 2 obtuse angles.

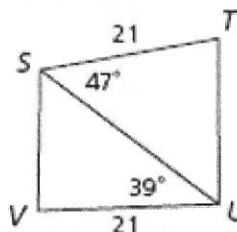
The sum of all 3 angles must $= 180^\circ$, but the sum of the 2 obtuse angles is $> 180^\circ$, and adding the 3rd angle will still make the $\triangle$ angle sum $> 180^\circ$. ~~$\times$~~ The temp. assumption led to a contradiction so a $\triangle$ cannot have 2 obtuse angles.

8. Complete the statement with $<$, $>$, or $=$



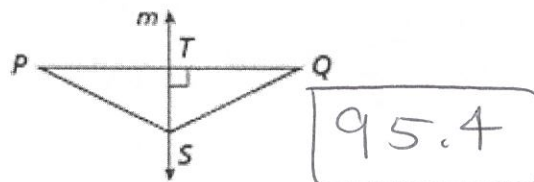
$$m\angle DCA \underline{>} m\angle BCA$$

9. Complete the statement with $<$, $>$, or $=$



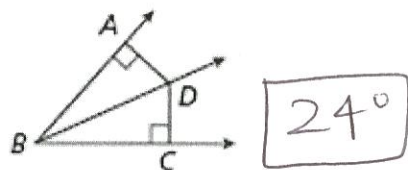
$$TU \underline{>} SV$$

10. Given that $PS = 53.4$, $QT = 47.7$ and $QS = 53.4$, find PQ .

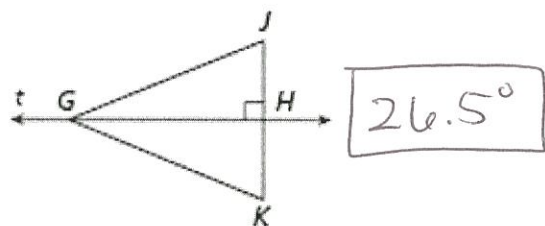


$$95.4$$

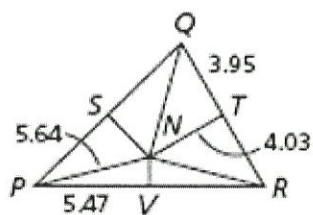
11. Given that $AD = 61$, $CD = 61$, and $m\angle ABC = 48^\circ$, find $m\angle CBD$.



12. Given that line t is the perpendicular bisector of $\overline{JK}$, $JG = (x + 12)$ and $KG = (3x - 17)$, find KG .

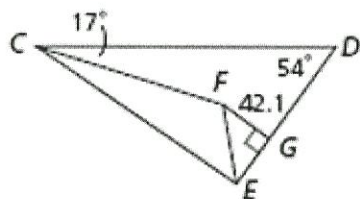


13. $\overline{SN}$, $\overline{TN}$ and $\overline{VN}$ are the perpendicular bisectors of $\triangle PQR$. Find each length:



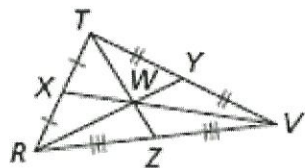
- a. $NR = 5.64$
 b. $RV = 5.47$
 c. $TR = 3.95$
 d. $QN = 5.64$

14. $\overline{CF}$ and $\overline{EF}$ are angle bisectors of $\triangle CDE$. Find each measure:



- a. The distance from F to $\overline{CD} = 42.1$
 b. $m\angle FED = 46^\circ$

15. $VX = 204$ and $RW = 104$. Find each length:

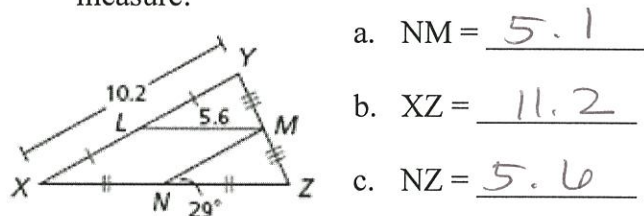


- a. $VW = 136$
 b. $WX = 68$
 c. $RY = 156$
 d. $WY = 52$

16. Find the orthocenter of the triangle with vertices $(-5, 2)$, $(-5, 10)$ and $(1, 4)$

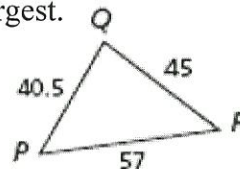
$$(-3, 4)$$

17. Use the diagram below to find each measure:



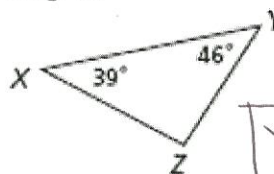
- a. $NM = 5.1$
 b. $XZ = 11.2$
 c. $NZ = 5.6$
 d. $m\angle LMN = 29^\circ$
 e. $m\angle YXZ = 29^\circ$
 f. $m\angle XLM = 151^\circ$

18. Write the angles in order from smallest to largest.



$$m\angle R < m\angle P < m\angle Q$$

19. Write the sides in order from shortest to longest.



$$YZ < XZ < YX$$

20. The distance from Arville to Branton is 114 miles. The distance from Branton to Camford is 247 miles. If the three towns form a triangle, what is the range of distances from Arville to Camford?

"AC"

$$133 < AC < 361$$