

Name: Key

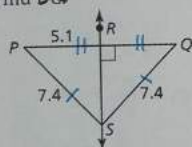
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Chapter 6.1/6.2/6.4 Quiz Review

**Directions:** Answer the questions below. This will be graded as if it were a quiz/test, so **SHOW YOUR WORK!!!**  
You may use your book, your notes, and a calculator.

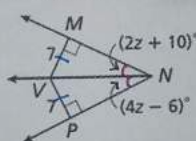
- What is the circumcenter of a triangle? THE POINT OF INTERSECTION OF THE PERPENDICULAR BISECTORS OF A TRIANGLE.
- The circumcenter is always located:
  - INSIDE an acute triangle
  - ON a right triangle
  - OUTSIDE an obtuse triangle
- What is the incenter of a triangle? THE POINT OF INTERSECTION OF THE ANGLE BISECTORS OF A TRIANGLE
- The incenter is always located INSIDE the triangle.
- What is the midsegment of a triangle? A SEGMENT CONNECTING THE MIDPOINTS OF TWO SIDES OF A TRIANGLE.

6. Find  $\frac{RQ}{DC}$ .

$$PR = RQ$$

$$5.1 = RQ$$

$$\frac{RQ}{DC} = 5.1$$

7. Find  $m\angle MNP$ .

$$m\angle MNV = m\angle PNV$$

$$2z + 10 = 4z - 6$$

$$16 = 2z$$

$$8 = z$$

$$m\angle MNP = 2z + 10 + 4z - 6$$

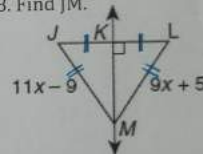
$$= 6z + 4$$

$$= (6 \cdot 8) + 4$$

$$= 52$$

$$m\angle MNP = 52^\circ$$

8. Find JM.



$$JM = LM$$

$$11x - 9 = 9x + 5$$

$$2x = 14$$

$$x = 7$$

$$JM = 9x + 5$$

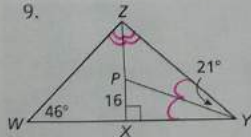
$$= 9(7) + 5$$

$$= 68$$

$$JM = 68$$

$\overline{PZ}$  and  $\overline{PY}$  are angle bisectors of  $\triangle WYZ$ . Find the following.

9.



a.  $m\angle WZX = 46^\circ$

$$m\angle PYX = m\angle PYZ$$

$$= 21^\circ$$

$$m\angle XYZ = 21 + 21$$

$$= 42^\circ$$

$$180 = 46 + 42 + m\angle Z$$

$$180 = 88 + m\angle Z$$

$$92 = m\angle Z$$

$$m\angle WZX = \frac{92}{2}$$

$$= 46^\circ$$

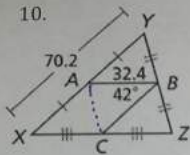
b. the shortest distance from P to  $\overline{WY} = 16$

$$PX = 16$$

TURN  
OVER

Find the following.

10.



a.  $XZ = 64.8$

$$\begin{aligned} XZ &= 2(AB) \\ &= 2(32.4) \\ &= 64.8 \end{aligned}$$

b.  $\angle Y = 35.1$

$$\begin{aligned} BC &= \frac{1}{2}(YX) \\ &= \frac{1}{2}(70.2) \\ &= 35.1 \end{aligned}$$

c.  $m\angle YAB = 42^\circ$

$$\begin{aligned} m\angle ABC &= m\angle YAB \\ 42^\circ &= m\angle YAB \end{aligned}$$

11. Find the circumcenter of triangle DOG with points ~~D(6, 3), O(-4, -5), G(6, -5)~~ D(6, 3), O(-4, -5), G(6, -5)

$\perp$  BISECTOR OF DG

$$M = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) = \left( \frac{6 + 6}{2}, \frac{3 + (-5)}{2} \right) = (6, -1)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-5 - 3}{6 - 6} = \frac{-8}{0}$$

$$m_{\perp} = \frac{0}{-8} = 0$$

$$y = -1$$

$\perp$  BISECTOR OF OG

$$M = \left( \frac{-4 + 6}{2}, \frac{-5 + (-5)}{2} \right) = (1, -5)$$

$$m = \frac{-5 - (-5)}{6 - (-4)} = \frac{0}{10}$$

$$m_{\perp} = \frac{10}{0} \text{ UNDEFINED}$$

$$x = 1$$

CIRCUMCENTER OF  $\triangle$ :

$$(x, y) = (1, -1)$$

DG: x matches, y different  
OG: y matches, x different