NAME:_____

TABLE#: _____

Find the value of X

1.

$4x$

$x + 5$

$2x - 1$

2.

$4x + 5$

$6x - 9$

3.

B

$3x$

$5x - 20$

A C

4.

$(5x + 10)°$

$(7x - 4)°$

Triangle Angle Bisector & Perpendicular Bisector-Worksheet

1
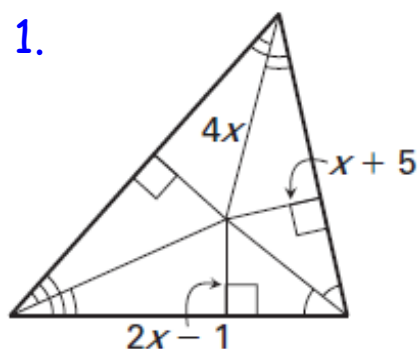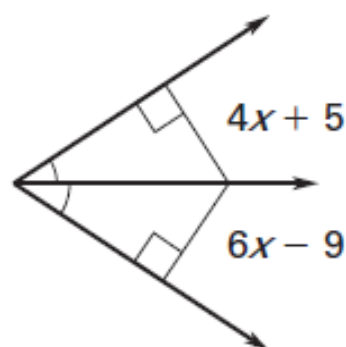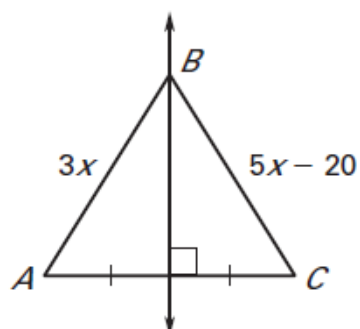
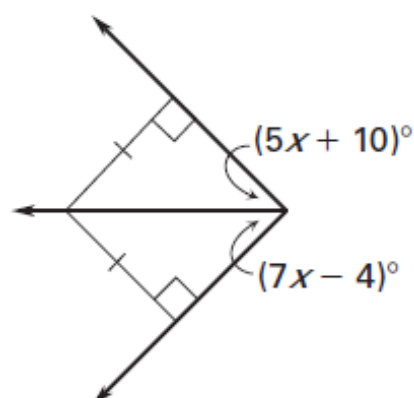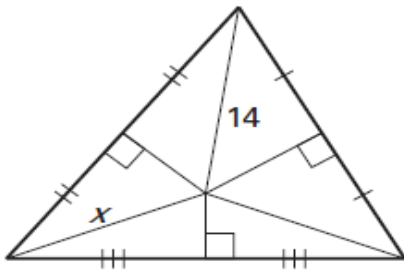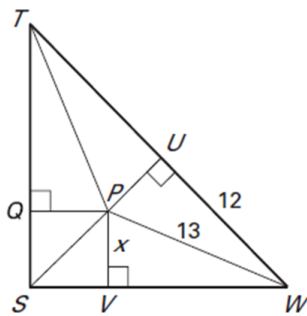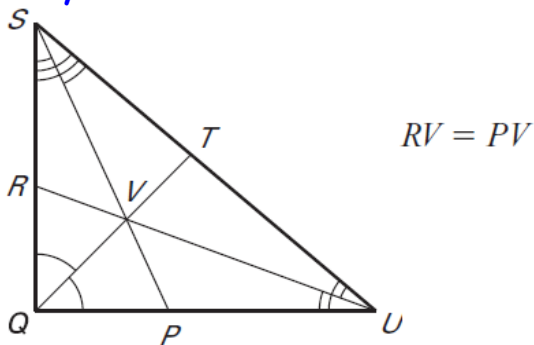**5.** Find the value of X

**6.** Find the value of x that makes P the incenter of $\triangle STW$

7. Determine the error which makes the equality a false statement. *Explain.*

$$RV = PV$$

**8.** Your neighbor is placing a new bird bath in a triangular garden. He wants the bird bath to be in a location that is the same distance from each boarder of the garden. What will your neighbor need to know, to guarantee that he chose the right spot?

9. Find the perimeter of ΔPQR

- *Point T is the incenter of ΔPQR*
- *ΔPQR is an isosceles triangle with the vertex angle at point R*
- *The base of the triangle has a length of 40 cm.*

P   W   Q

15

T

S   26   U

R
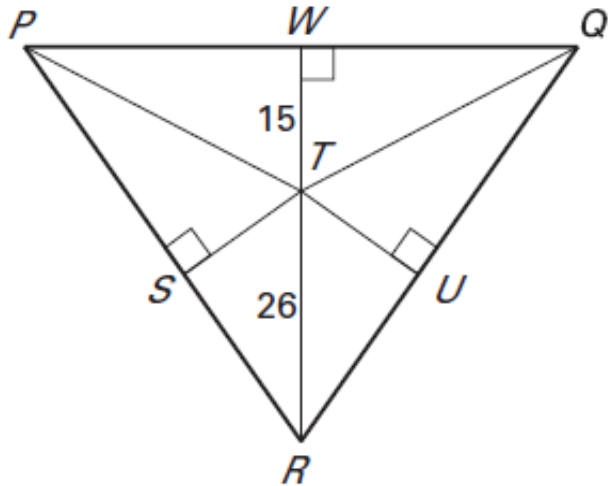
10. Point O is the circumcenter of ΔMNP
Find the length of each segment:

M   20   Q   N

26.8

22   26

S   O   R

P

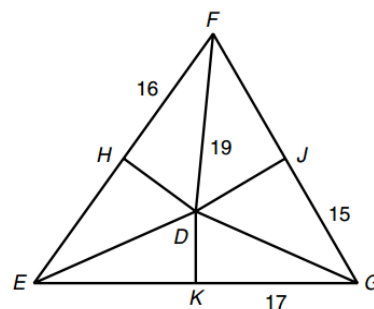MO = _____

PR = _____

MN = _____

SP = _____

QN = _____

MP = _____
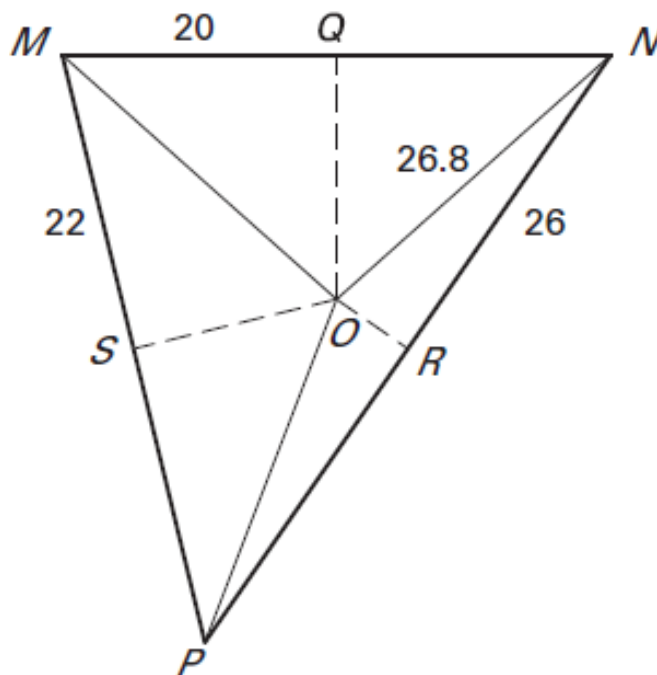
11. $\overline{HD}$, $\overline{JD}$, and $\overline{KD}$ are the perpendicular bisectors of $\triangle EFG$. Find each length.
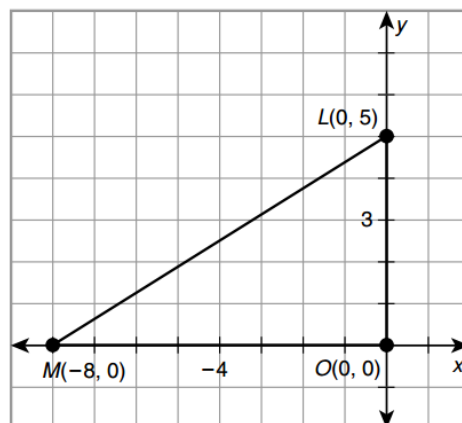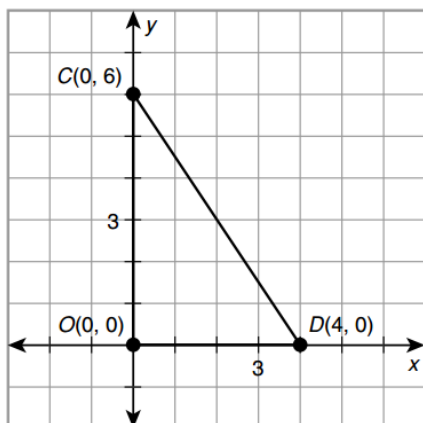
DG

_____

EK

_____

FJ

_____

DE

_____

12. Find the circumcenter of each triangle.

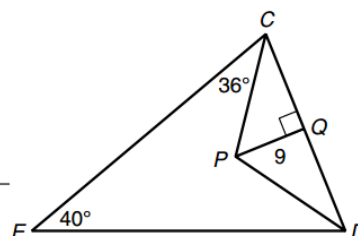**13.**

$\overline{PC}$ and $\overline{PD}$ are angle bisectors of $\triangle CDE$. Find each measure.

the distance from P to $\overline{CE}$

_____

m$\angle PDE$

_____

14.

$\overline{KX}$ and $\overline{KZ}$ are angle bisectors of $\triangle XYZ$. Find each measure.

the distance from K to $\overline{YZ}$

_____

m$\angle KZY$

_____