Name_____ Date _____

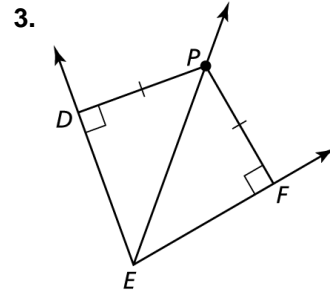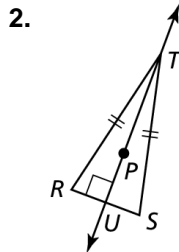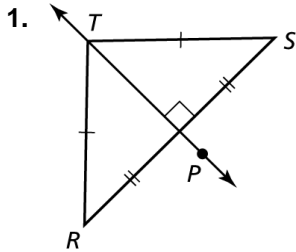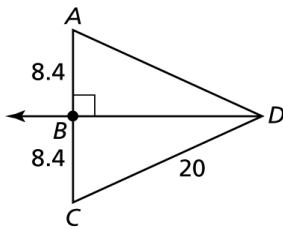## 6.1 Practice A

In Exercises 1–3, tell whether the information in the diagram allows you to conclude that point *P* lies on the perpendicular bisector of $\overline{RS}$, or on the angle bisector of ∠*DEF*. Explain your reasoning.

1.

2.

3.

In Exercises 4–7, find the indicated measure. Explain your reasoning.

4. *AD*

5. *GJ*
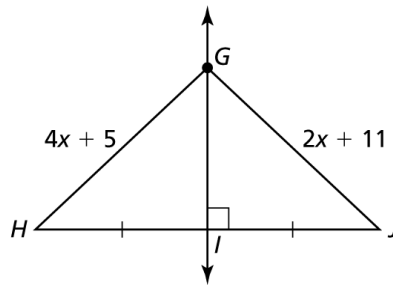
6. *PQ*
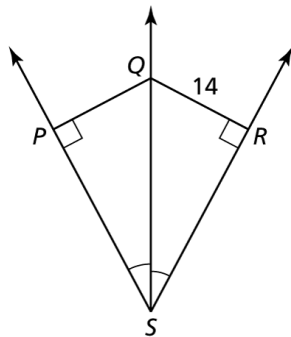
7. *m∠DGF*
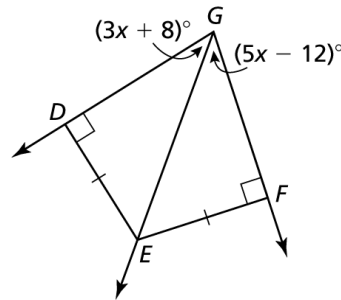
8. Write an equation of the perpendicular bisector of the segment with the endpoints $A(-2, -2)$ and $B(6, 0)$.

9. Explain how you can use the perpendicular bisector of a segment to draw an isosceles triangle.

10. In a right triangle, is it possible for the bisector of the right angle to be the same line as the perpendicular bisector of the hypotenuse? Explain your reasoning. Draw a picture to support your answer.

6.1 Practice B

In Exercises 1–3, tell whether the information in the diagram allows you to conclude that point _P_ lies on the perpendicular bisector of $\overline{RS}$, or on the angle bisector of $\angle DEF$. Explain your reasoning.
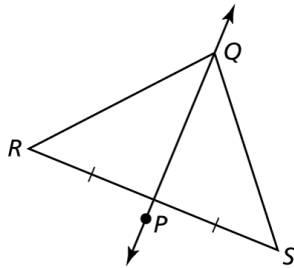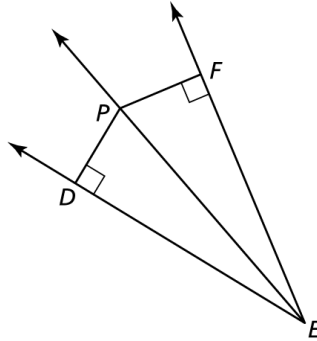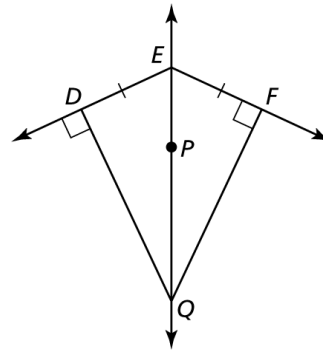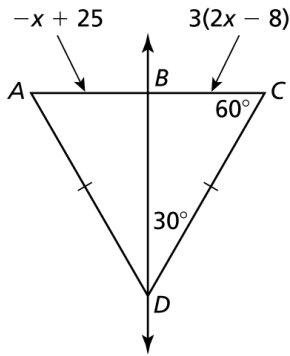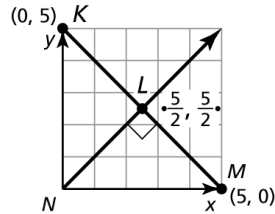
1.

2.

3.

In Exercises 4–6, find the indicated measure. Explain your reasoning.

4. AC

$-x + 25$ $3(2x - 8)$

$60°$

$30°$

5. $m\angle LNM$

$(0, 5)$ K

$\left(\frac{5}{2}, \frac{5}{2}\right)$

M $(5, 0)$

N

6. $m\angle UTW$

$(2x + 3)°$ T

$(5x - 24)°$

U

9
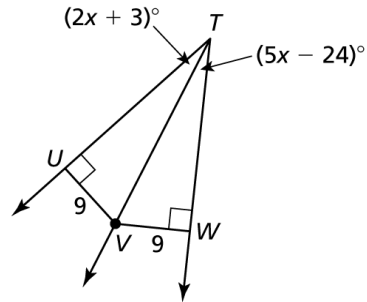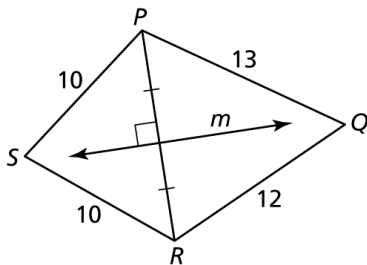
V 9 W

7. Write an equation of the perpendicular bisector of the segment with the endpoints $G(3, 7)$ and $H(-1, -5)$.

8. In the figure, line m is the perpendicular bisector of $\overline{PR}$. Is point Q on line m? Is point S on line m? Explain your reasoning.

P

10 13

m

S Q

10 12

R

9. You are installing a fountain in the triangular garden pond shown in the figure. You want to place the fountain the same distance from each side of the pond. Describe a way to determine the location of the fountain using angle bisectors.