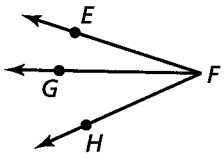
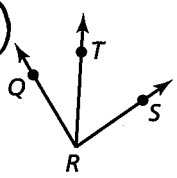
Name _____ Date _____

1.5 Notetaking with Vocabulary (continued)

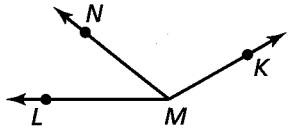
Extra Practice

In Exercises 1–3, name three different angles in the diagram.

1. 

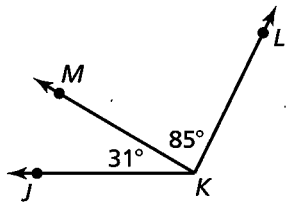
2. 

∠QRT or ∠TRQ
∠TRS or ∠SRT
∠QRS or ∠SRQ

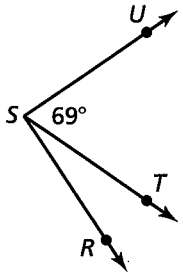
3. 

In Exercises 4–9, find the indicated angle measure(s).

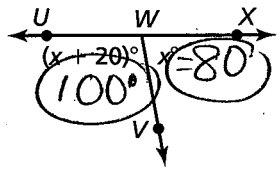
4. Find $m\angle JKL$.



5. $m\angle RSU = 91°$. Find $m\angle RST$.

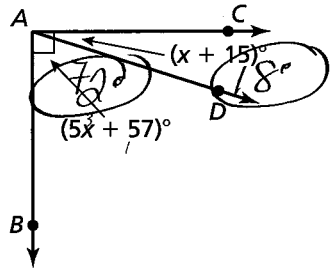


6. $\angle UWX$ is a straight angle. Find $m\angle UWV$ and $m\angle XWV$.

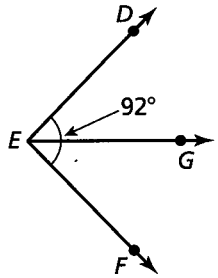


X + X + 20 = 180
2X + 20 = 180
2X = 160
X = 80

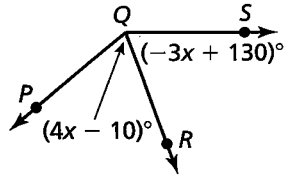
7. Find $m\angle CAD$ and $m\angle BAD$.



8. $\overrightarrow{EG}$ bisects $\angle DEF$. Find $m\angle DEG$ and $m\angle GEF$.



9. $\overrightarrow{QR}$ bisects $\angle PQS$. Find $m\angle PQR$ and $m\angle PQS$.



5X + 57 + X + 15 = 90
6X + 72 = 90
6X = 18
X = 3

Name _____ Date _____

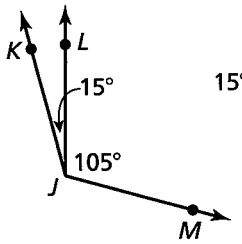
1.6 Notetaking with Vocabulary (continued)

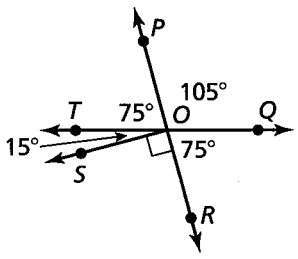
Extra Practice

In Exercises 1 and 2, use the figure.

1. Name the pair(s) of adjacent complementary angles.

2. Name the pair(s) of nonadjacent supplementary angles.





In Exercises 3 and 4, find the angle measure.

3. $\angle A$ is a complement of $\angle B$ and $m\angle A = 36°$. Find $m\angle B$.

2∠'s add to 90°

90
−36
54° = m∠B

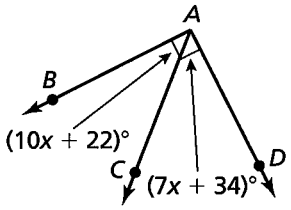
4. $\angle C$ is a supplement of $\angle D$ and $m\angle D = 117°$. Find $m\angle C$.

2∠'s add to 180°

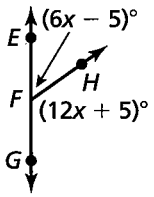
180
−117
63° = m∠C

In Exercises 5 and 6, find the measure of each angle.

5.



6.

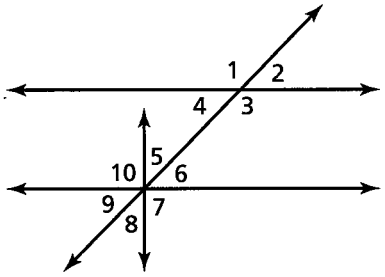


In Exercises 7–9, use the figure.

7. Identify the linear pair(s) that include $\angle 1$.

8. Identify the vertical angles.

9. Are $\angle 6$ and $\angle 7$ a linear pair? Explain.

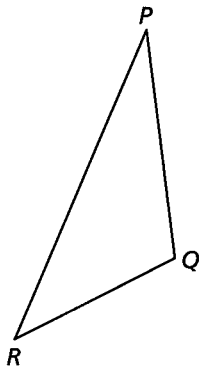


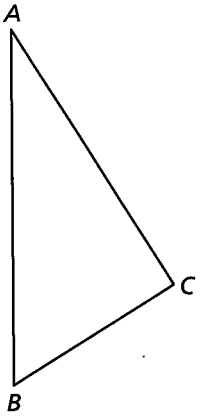
Name_____ Date_____

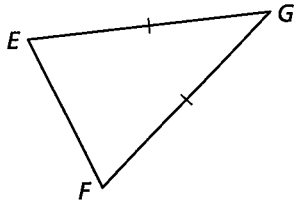
5.1 Notetaking with Vocabulary (continued)

Extra Practice

In Exercises 1–3, classify the triangle by its sides and by measuring its angles.

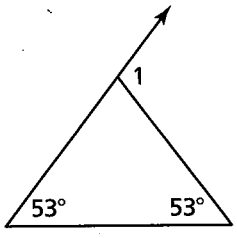
1. 

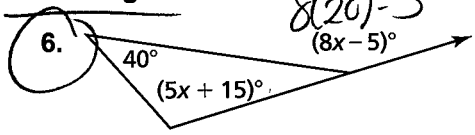
2. 

3. 

4. Classify $\triangle ABC$ by its sides. Then determine whether it is a right triangle.
$A(6, 6)$, $B(9, 3)$, $C(2, 2)$

In Exercises 5 and 6, find the measure of the exterior angle.

5. 

6. 

155°
100=5
8(20)-5

* Sum of 2 remote int ∠s = Ext ∠
$5x+15+40 = 8x-5$
$5x+55 = 8x-5$
$-5x \quad -5x$

7. In a right triangle, the measure of one acute angle is twice the sum of the measure of the other acute angle and 30. Find the measure of each acute angle in the right triangle.

$55 = 3x - 5$
$+5 \quad +5$
$\frac{60}{3} = \frac{3x}{3}$ $x = 20$

Name _____ Date _____

2 EXPLORATION: Measure of One Angle in a Regular Polygon

Go to *BigIdeasMath.com* for an interactive tool to investigate this exploration.

Work with a partner.

a. Use the function you found in Exploration 1 to write a new function that gives the measure of one interior angle in a regular polygon with n sides.

b. Use the function in part (a) to find the measure of one interior angle of a regular pentagon. Use dynamic geometry software to check your result by constructing a regular pentagon and finding the measure of one of its interior angles.

c. Copy your table from Exploration 1 and add a row for the measure of one interior angle in a regular polygon with n sides. Complete the table. Use dynamic geometry software to check your results.

Number of sides, *n*	3	4	5	6	7	8	9
Sum of angle measures, *S*							
Measure of one interior angle							

Communicate Your Answer

3. What is the sum of the measures of the interior angles of a polygon?

$180(n-2)$ = Sum of int. $\angle$s

4. Find the measure of one interior angle in a regular dodecagon (a polygon with 12 sides).

int $\angle$ + ext $\angle$ = 180

$\frac{360}{12} = 30 = 1$ ext $\angle$

180
−30
150° = 1 int $\angle$

or

$\frac{180(12-2)}{12} = 150°$