

6-1A Lesson Master

Questions on SPUR Objectives
See pages 424–427 for objectives.

REPRESENTATIONS Objective J

1. Under a translation, the point $P' = (2, 5)$ is the image of $P = (-1, 2)$. Describe what has happened to P , using:

a. words _____

b. coordinate notation _____

2. Five is subtracted from the second coordinate of every point on a figure. Describe what has happened to the figure, using:

a. words _____

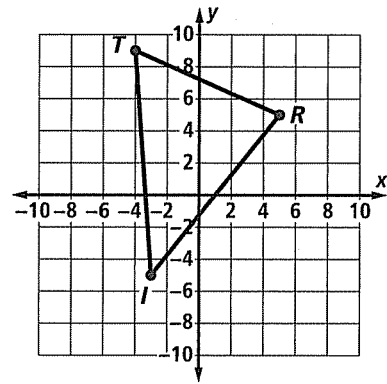
b. coordinate notation _____

3. $\triangle TRI$ is graphed at the right.

- a. What are the coordinates of T , R , and I ?

- b. Translate $\triangle TRI$ three units to the left. The image of (x, y) becomes

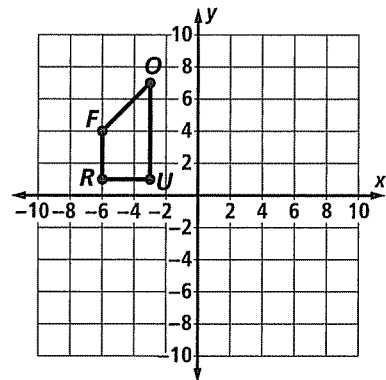
- c. Graph the translation image of $\triangle TRI$ from part b. on the same set of axes, and label it $\triangle T'R'I'$.



4. Rectangle $RECT$ has vertices $R = (1, 4)$, $E = (3, 4)$, $C = (3, 8)$, and $T = (1, 8)$. Its image, $R'E'C'T'$, is translated 3 units up and 4 units to the right. Write the ordered pair for each vertex of the translation image.

R' _____ E' _____ C' _____ T' _____

5. The graph of quadrilateral $FOUR$ is provided at the right. Graph the translation image of $FOUR$ such that the image of (x, y) is $(x - 2, y - 5)$.



6. $\triangle A'B'C'$ is a translation image of $\triangle ABC$. If $A = (5.1, 3)$, $B = (5.2, -2.4)$, $C = (0, -1.8)$, and $A' = (3.3, 7.5)$, what are the coordinates of B' and C' ?

$B' =$ _____

$C' =$ _____

6-1B**VOCABULARY**

- Another name for a translation is _____.
- If point (x, y) is translated to point (x', y') :
 - _____ is the image.
 - _____ is the preimage.
- Give a definition of congruent figures.

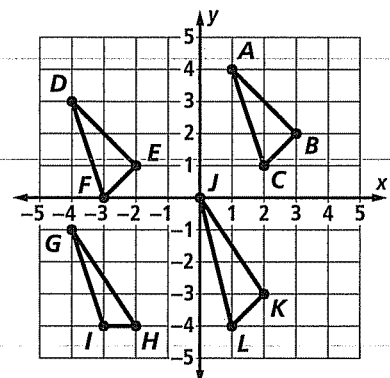
REPRESENTATIONS

Objective J: Translate and reflect figures on a coordinate graph.

- Multiple choice.* If a triangle slides 2 units to the right on a coordinate grid, the resulting triangle is
A half as large. B the same size. C twice as large. D twice as tall. _____
- Multiple choice.* If, under a translation, a negative number is added to the first coordinate of each vertex of a triangle, the image slides
A below the preimage. B to the left of the preimage.
C to the right of the preimage. D above the preimage. _____

In 6–8, determine whether the statement is *true* or *false*.

- If a right triangle slides 3 units down on a coordinate grid, the image will be smaller than the preimage. _____
- If point $(6, -3)$ slides 3 units right and 2 units up, its image is $(3, -5)$. _____
- In the graph at the right,
 - $\triangle DEF$ is a translation image of preimage $\triangle ABC$. _____
 - $\triangle GHI$ is a translation image of preimage $\triangle JKL$. _____



In 9–13, tell what happens to the graph of a figure in each situation.

9. Add 3 to the second coordinate of every point in the figure.

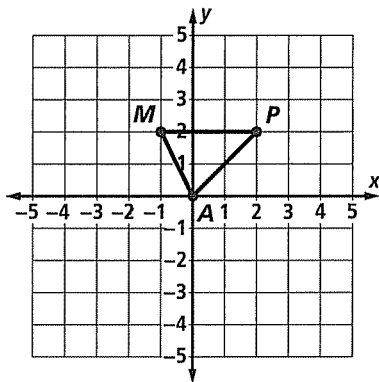
10. Add -1.5 to the first coordinate of every point in the figure.

11. Add -4 to the second coordinate of every point in the figure.

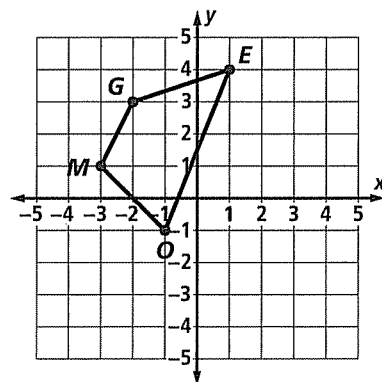
12. Add 5 to the first coordinate of every point in the figure.

13. Add 1 to the first coordinate of every point in the figure,
and add -2 to the second coordinate of every point in the figure.

14. Graph the image of $\triangle MAP$ when -3 is added to each second coordinate.



15. Graph the image of quadrilateral $GEOM$ when 3 is added to each first coordinate and -4 is added to each second coordinate.



16. $\triangle X'Y'Z'$ is the translation image of $\triangle XYZ$. If $X = (3, 2)$, $Y = (3, 0)$, $Z = (-4, -1)$, and $X' = (7, -3)$, what are the coordinates of Y' and Z' ?

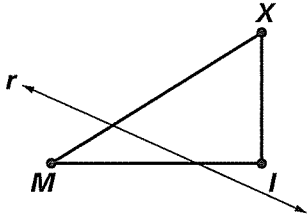
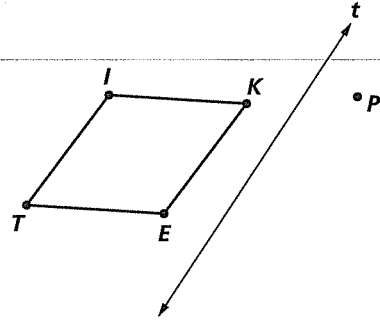
$Y' =$ _____ $Z' =$ _____

6-2A Lesson Master

Questions on SPUR Objectives
See pages 424–427 for objectives.

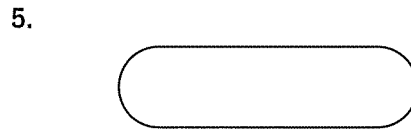
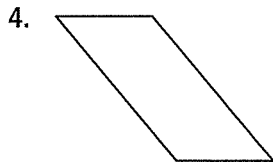
SKILLS Objective A

1. Draw the reflection image of point P over line t .
2. Draw the reflection image of quadrilateral $KITE$ over line t .
3. Draw the reflection image of $\triangle MIX$ over line r .

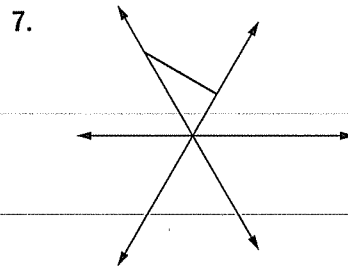
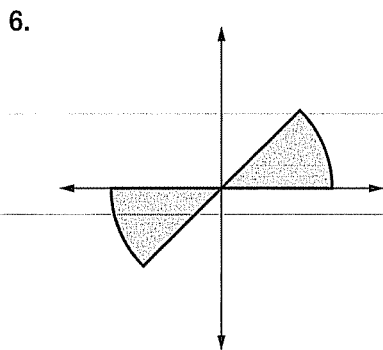


PROPERTIES Objective E

In 4 and 5, draw all symmetry lines for the figure.



In 6 and 7, part of a symmetric figure is shown. All lines drawn are symmetry lines. Draw in the rest of the figure.

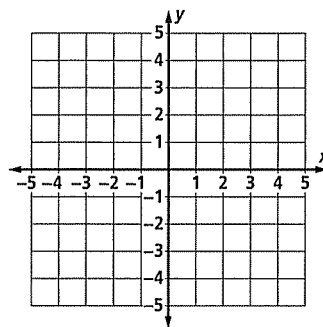


8. Draw a figure with an infinite number of symmetry lines.
9. Draw a figure with no lines of symmetry.

REPRESENTATIONS Objective J

10. On the coordinate grid at the right,

a. graph $P = (-3, 4)$.



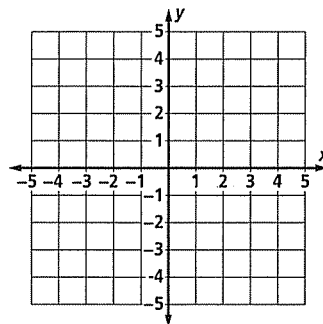
b. If P' is the reflection image of P over the x -axis, then $P' =$ _____.

c. If P^* is the reflection image of P' over the y -axis, then $P^* =$ _____.

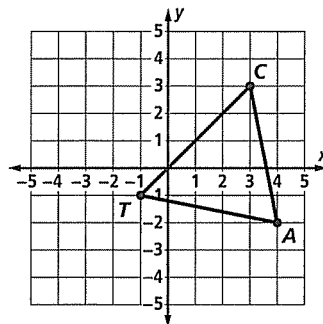
d. If P'' is the reflection image of P^* over the x -axis, then $P'' =$ _____.

e. Draw PPP^*P'' on the grid at the right.

What kind of figure is this?



11. $\triangle CAT$ is pictured at the right.
Reflect it over the y -axis.

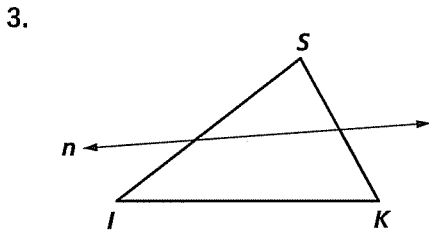
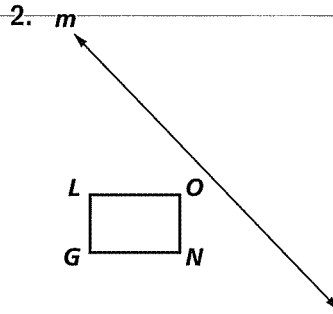
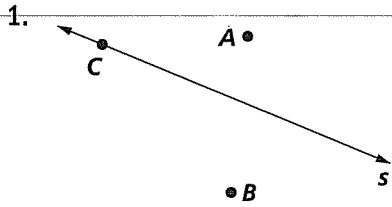


12. If the image in Question 11 is $\triangle C'A'T'$, what is the relationship between the y -axis and $\overline{CC'}$, $\overline{AA'}$ and $\overline{TT'}$?

6-2B Lesson Master

SKILLS Objective A: Reflect figures over a line.

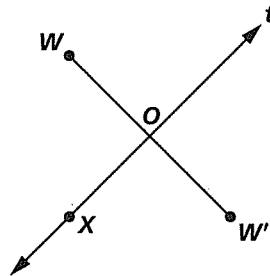
In 1-4, draw the reflection image of the given figure over the given line.



In 5 and 6, W' is the reflection image of point W over line t .

5. If $OW = 12$, $OW' =$ _____

6. $m\angle WOX =$ _____



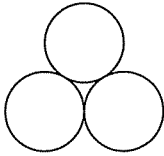
PROPERTIES

Objective E: Determine reflection and rotation symmetries of a figure.

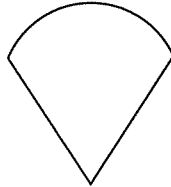
7. How many lines of symmetry does a rhombus that is not a square have? _____

In 8–13, draw all lines of symmetry for each figure.

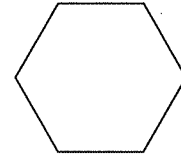
8.



9.



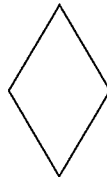
10.



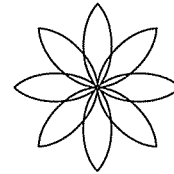
11.



12.



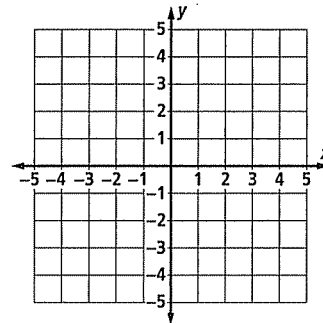
13.

**REPRESENTATIONS**

Objective J: Translate and reflect figures on a coordinate graph.

14. Graph the triangle with vertices $I = (0, -4)$, $C = (-4, -1)$, and $E = (-3, 3)$.

a. Draw the reflection image over the x -axis.



b. Give the coordinates of the vertices of the image.

$I' =$ _____

$C' =$ _____

$E' =$ _____

c. What is the relationship between the coordinates of the images and preimages?

15. What is the reflection image of $(1.3, -2.5)$

a. over the x -axis? _____

b. over the y -axis? _____

c. over the line $x = 1.3$? _____

6-3A Lesson Master

Questions on SPUR Objectives
See pages 424–427 for objectives.

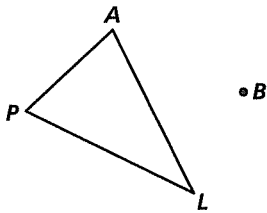
SKILLS Objective B

You will need a protractor and a ruler to complete these questions.

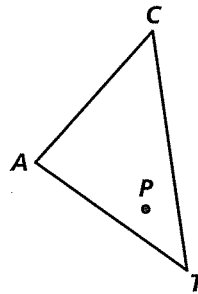
1. a. First rotate P 90° around Q . Label this image P' .
- b. Then rotate P -90° around Q . Label this image P^* .
- c. What is true about P' , Q , and P^* ?



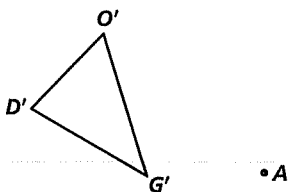
2. Rotate $\triangle PAL$ -150° around B .



3. Rotate $\triangle ACT$ 50° around P .



4. $\triangle D'O'G'$ is the image of $\triangle DOG$ after a rotation of 60° about A . Draw $\triangle DOG$.



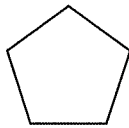
PROPERTIES Objective E

5. Determine the value of n , if possible, for the n -fold rotation symmetry of each quadrilateral.

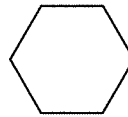
Figure	n
Quadrilateral	
Parallelogram	
Rhombus	
Trapezoid	
Rectangle	
Square	

6. For each regular polygon, give the measure of the smallest possible turn for rotation symmetry and the value of n for n -fold rotation symmetry.

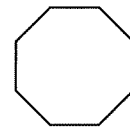
a.



b.



c.



Measure of
smallest turn:

n :

6-3B Lesson Master

VOCABULARY

1. When does a figure have rotation symmetry?

2. If a figure has rotation symmetry, what is the center of the rotation called?

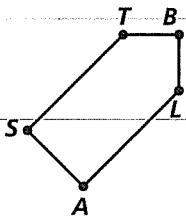
3. What is n -fold rotation symmetry ($n \geq 2$)?

SKILLS Objective B: Draw the rotation image of a point or figure.

4. Rotate point A 135° about B .



5. Rotate pentagon $BLAST$ 90° about B .

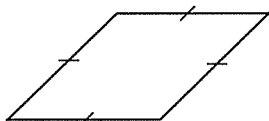


PROPERTIES

Objective E: Determine reflection and rotation symmetries of a figure.

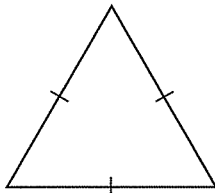
In 6–11, a. determine n for the n -fold rotation symmetry of the figure ($n \geq 2$) if one exists. b. How many lines of symmetry does the figure have?

6.



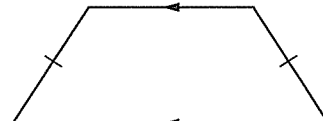
a. _____ b. _____

7.



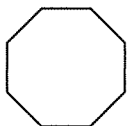
a. _____ b. _____

8.



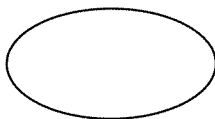
a. _____ b. _____

9.



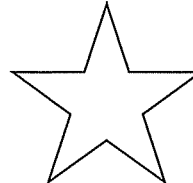
a. _____ b. _____

10.



a. _____ b. _____

11.

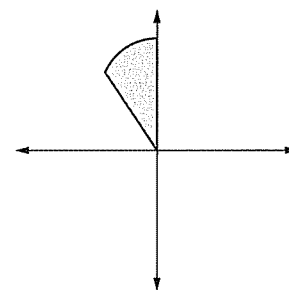


a. _____ b. _____

12. Describe a figure that has rotation symmetry, but not reflection symmetry.

13. Describe a figure that has reflection symmetry but not rotation symmetry.

14. The figure at the right is part of a symmetric figure. The lines are lines of symmetry.



a. Does the figure as it appears now have rotation symmetry? _____

b. If the figure is completed with reflection images, does the completed figure have rotation symmetry? If it is n -fold, what is n ? _____

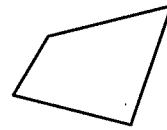
6-4A Lesson Master**Questions on SPUR Objectives**
See pages 424–427 for objectives.**SKILLS** Objective C1. *True or false.*

a. A regular pentagon can be the fundamental region of a tessellation. _____

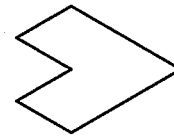
b. A regular hexagon can be the fundamental region of a tessellation. _____

c. A regular octagon can be the fundamental region of a tessellation. _____

2. Trace the quadrilateral at the right. Use at least eight copies of the quadrilateral to make a tessellation.



3. Trace the figure at the right and make a tessellation with at least eight copies of the figure.

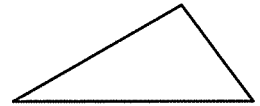


6-4B Lesson Master**SKILLS** Objective C: Create tessellations of polygons.In 1–6, determine whether the statement is *true* or *false*.

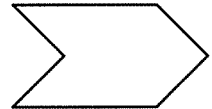
1. All triangles tessellate.
2. All quadrilaterals tessellate.
3. All pentagons tessellate.
4. All hexagons tessellate.
5. All heptagons tessellate.
6. All octagons tessellate.

In 7–10, trace the figure at the right. Use the figure to make a tessellation with at least six copies of the figure.

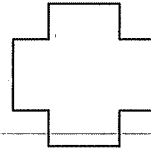
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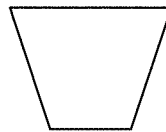
8.



9.



10.



REVIEW Lessons 6-2 and 6-3, Objective E

11. Consider the fundamental regions in Questions 7-10.

a. If the region has n -fold rotation symmetry, what is n ?

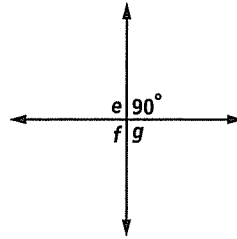
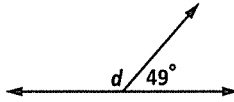
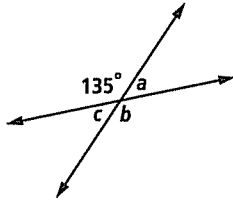
b. If the region has reflection symmetry, how many lines of symmetry are there?

6-5A Lesson Master

Questions on SPUR Objectives
See pages 424–427 for objectives.

PROPERTIES Objective F

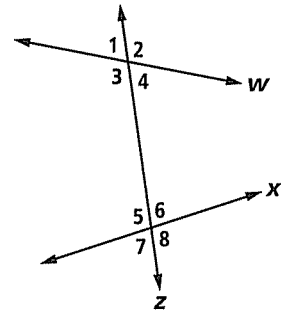
In 1–6, use the diagrams below to find each measure.



1. $m\angle a =$ _____
2. $m\angle b =$ _____
3. $m\angle c =$ _____
4. $m\angle d =$ _____
5. $m\angle e =$ _____
6. $m\angle f =$ _____

For 7–12, use the diagram at right.

7. Name the transversal. _____
8. Name all pairs of same side interior angles. _____
9. Name all pairs of alternate exterior angles. _____
10. Name all pairs of corresponding angles. _____
11. Name all linear pairs. _____
12. If $m\angle 3 = 109^\circ$, find $m\angle 2$ and $m\angle 4$. _____

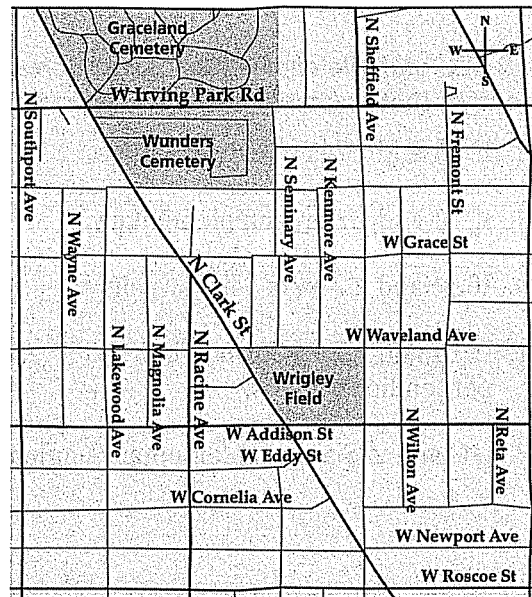


USES Objective I

In 13 and 14, use this map of some streets in Chicago.

13. The main entrance to Wrigley Field is at the northeast intersection of Clark Street and Addison Street. If the angle there is 124° , find the measure of the angle at the northwest intersection.

14. There is a six-way intersection near the bottom, right-hand corner of the map. Newport Avenue and Sheffield Avenue are perpendicular, and the angle formed by Clark Street and Sheffield Avenue is 40° . Find the measure of all the angles at this intersection.



6-5B Lesson Master

PROPERTIES

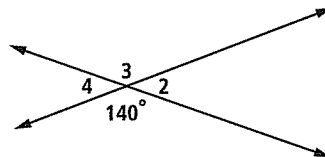
Objective F: Use properties of lines and angles to determine angle measures.

In 1-7, use the diagrams to find each measure.

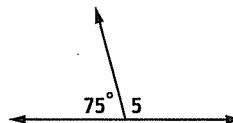
1. $m\angle 2$ _____

2. $m\angle 3$ _____

3. $m\angle 4$ _____



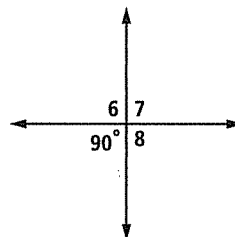
4. $m\angle 5$ _____



5. $m\angle 6$ _____

6. $m\angle 7$ _____

7. $m\angle 8$ _____



In 8-11, *multiple choice*. Choose all correct answers from the choices at the right that finish each sentence correctly.

- | | |
|---|--|
| 8. If $\angle 1$ and $\angle 2$ are vertical angles, _____ | A then $m\angle 1 = m\angle 2$. |
| 9. If $\angle 1$ and $\angle 2$ are supplementary, _____ | B then $m\angle 1 = m\angle 2 = 90^\circ$. |
| 10. If $\angle 1$ and $\angle 2$ form a linear pair, _____ | C then $m\angle 1 + m\angle 2 = 180^\circ$. |
| 11. If $\angle 1$ and $\angle 2$ are formed by perpendicular lines, _____ | D then $m\angle 1 + m\angle 2 = 90^\circ$. |
12. $\angle Q$ and $\angle S$ are supplementary angles. If $m\angle Q = 2(m\angle S)$, find $m\angle S$ _____

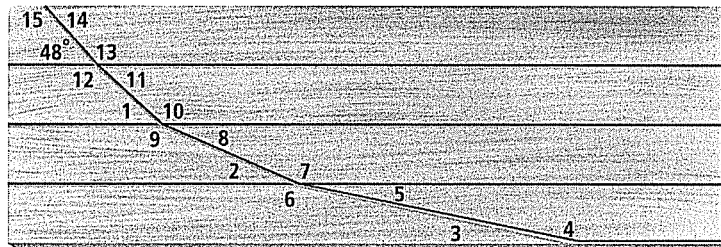
In 13–16, true or false.

13. If one of two vertical angles is obtuse, the other is obtuse. _____
14. If one of two supplementary angles is acute, the other is acute. _____
15. Perpendicular lines intersect to form four right angles. _____
16. Every pair of supplementary angles forms a linear pair. _____
17. Assume that $\angle F$ and $\angle G$ are supplementary angles and $m\angle F = 90^\circ$. Find $m\angle G$. _____

USES Objective I: Use angle properties in everyday situations.

18. A carpenter cuts rectangular pieces of cherry wood at various angles and matches the ends, as shown, to look like a curve. Given that $48^\circ = 2(m\angle 1)$, $m\angle 1 = 2(m\angle 2)$, and $m\angle 2 = 2(m\angle 3)$, find the measure of the angles below. (The drawing is not to scale.)

- | | |
|-----------------------|-----------------------|
| a. $m\angle 1$ _____ | b. $m\angle 2$ _____ |
| c. $m\angle 3$ _____ | d. $m\angle 4$ _____ |
| e. $m\angle 5$ _____ | f. $m\angle 6$ _____ |
| g. $m\angle 7$ _____ | h. $m\angle 8$ _____ |
| i. $m\angle 9$ _____ | j. $m\angle 10$ _____ |
| k. $m\angle 11$ _____ | l. $m\angle 12$ _____ |
| m. $m\angle 13$ _____ | n. $m\angle 14$ _____ |
| o. $m\angle 15$ _____ | |

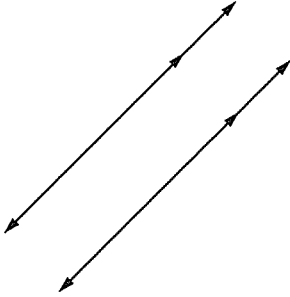


6-6A Lesson Master

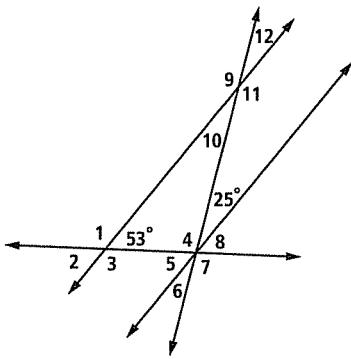
Questions on SPUR Objectives
See pages 424–427 for objectives.

PROPERTIES Objective F

1. Draw a transversal across these parallel lines and measure the eight angles formed. Describe six of the relationships among the angle measures you find.



In 2–13, refer to the diagram below in which two parallel lines are cut by two transversals. Write the measure of each angle.



- | | |
|--------------------------|--------------------------|
| 2. $m\angle 1 =$ _____ | 3. $m\angle 2 =$ _____ |
| 4. $m\angle 3 =$ _____ | 5. $m\angle 4 =$ _____ |
| 6. $m\angle 5 =$ _____ | 7. $m\angle 6 =$ _____ |
| 8. $m\angle 7 =$ _____ | 9. $m\angle 8 =$ _____ |
| 10. $m\angle 9 =$ _____ | 11. $m\angle 10 =$ _____ |
| 12. $m\angle 11 =$ _____ | 13. $m\angle 12 =$ _____ |

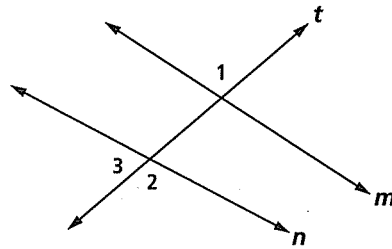
14. $\angle A$ and $\angle B$ are interior angles. They are neither a linear pair nor alternate interior angles. How are $m\angle A$ and $m\angle B$ related?

6-6B Lesson Master

PROPERTIES

Objective F: Use properties of lines and angles to determine angle measures.

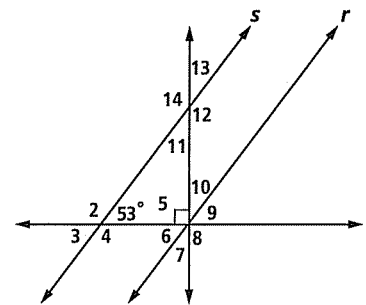
In 1–4, what can you conclude about the relationship between lines t , m , and n in the drawing below, given each condition?



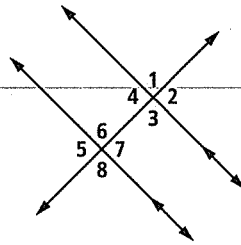
1. $m\angle 1 = m\angle 3$ _____
2. $m\angle 1 = m\angle 2$ _____
3. $m\angle 2 = m\angle 3$ _____
4. $m\angle 1 \neq m\angle 2$ _____

In 5–17, give the measure of each angle. Do *not* use a protractor. Lines r and s are parallel.

- | | |
|--------------------------|--------------------------|
| 5. $m\angle 2 =$ _____ | 6. $m\angle 3 =$ _____ |
| 7. $m\angle 4 =$ _____ | 8. $m\angle 5 =$ _____ |
| 9. $m\angle 6 =$ _____ | 10. $m\angle 7 =$ _____ |
| 11. $m\angle 8 =$ _____ | 12. $m\angle 9 =$ _____ |
| 13. $m\angle 10 =$ _____ | 14. $m\angle 11 =$ _____ |
| 15. $m\angle 12 =$ _____ | 16. $m\angle 13 =$ _____ |
| 17. $m\angle 14 =$ _____ | |



In 18–22, fill in the chart using the drawing.



	Type of Angle Pairs	Name of Pairs of Angles from Drawing	Are the Measures Equal?
18.	corresponding angles		
19.	same side exterior angles		
20.	alternate exterior angles		
21.	alternate interior angles		
22.	same side interior angles		

In 23–25, suppose that $m\angle 1 = w$ in the diagram above. Give the measure of each angle.

23. $m\angle 5 =$ _____

24. $m\angle 6 =$ _____

25. $m\angle 7 =$ _____

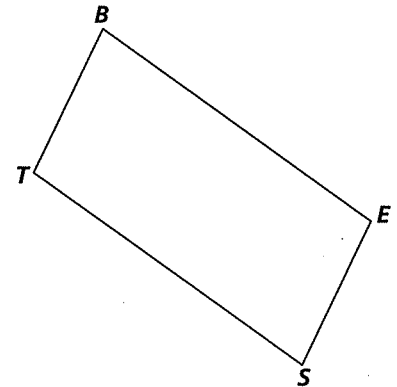
6-7A Lesson Master

Questions on SPUR Objectives
See pages 424–427 for objectives.

PROPERTIES Objective G

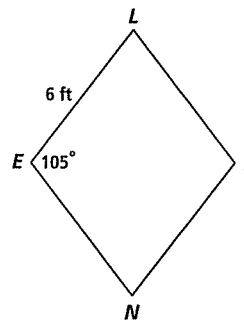
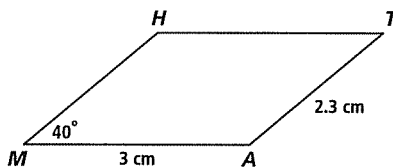
In 1 and 2, use parallelogram *BEST* at the right.

1. Measure the angles of the parallelogram at the right. Measure the sides to the nearest mm. How do your measures compare with what you expected?



2. a. Name two pairs of opposite sides.
- b. Name four pairs of consecutive sides.
- c. Name all pairs with equal lengths.
- d. Name two pairs of opposite angles.
- e. Name four pairs of consecutive angles.
- f. Name all pairs with equal measures.
- g. Name all pairs of supplementary angles.

In 3–12, find the indicated measures for parallelogram *MATH* and rhombus *LINE* below.



- | | | |
|------------------------|-------------------------|-------------------------|
| 3. $m\angle A =$ _____ | 4. $m\angle T =$ _____ | 5. $m\angle H =$ _____ |
| 6. $TH =$ _____ | 7. $MH =$ _____ | 8. $EN =$ _____ |
| 9. $m\angle L =$ _____ | 10. $m\angle I =$ _____ | 11. $m\angle N =$ _____ |
| 12. $NI =$ _____ | | |

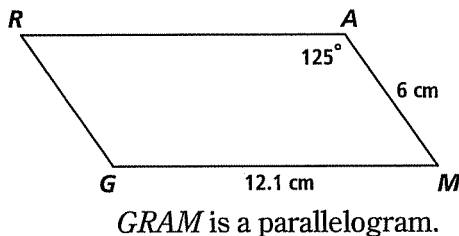
6-7B Lesson Master

PROPERTIES

Objective G: Understand and use properties of parallelograms.

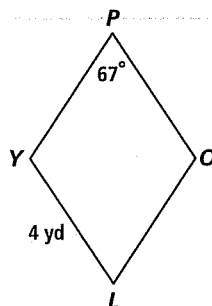
In 1–5, use properties of parallelograms and the parallelogram *GRAM* to find the indicated measures.

- $m\angle R =$ _____
- $m\angle G =$ _____
- $m\angle M =$ _____
- $RA =$ _____
- $RG =$ _____



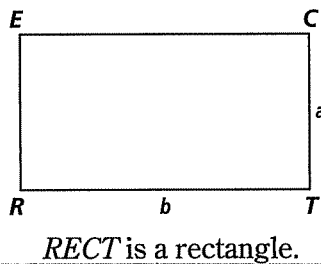
In 6–10, use properties of parallelograms and the rhombus *POLY* to find the indicated measures.

- $m\angle O =$ _____
- $m\angle L =$ _____
- $m\angle Y =$ _____
- $PO =$ _____
- $OL =$ _____



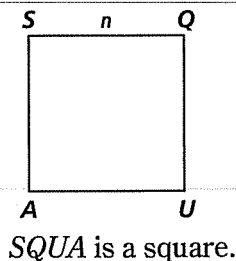
In 11–14, use properties of parallelograms and the rectangle *RECT* to find the indicated measures.

- $m\angle E =$ _____
- $m\angle C =$ _____
- $ER =$ _____
- $EC =$ _____



In 15–18, use properties of parallelograms and the square *SQUA* to find the indicated measures.

- $m\angle S =$ _____
- $m\angle Q =$ _____
- $QU =$ _____
- $AU =$ _____



In 19–23, give the most specific name for each description.

19. a parallelogram with all sides the same length _____
20. a quadrilateral with two pairs of parallel sides _____
21. a rhombus with a right angle _____
22. a parallelogram with a right angle _____
23. a rectangle with equal length and width _____

In 24–29, tell whether each statement is *always*, *sometimes*, or *never true*.

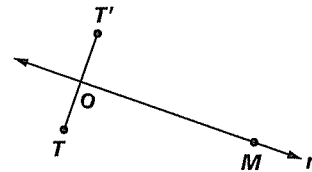
24. Opposite angles of a rhombus have the same measure. _____
25. A rectangle is a square. _____
26. A square is a rhombus. _____
27. All sides of a parallelogram have the same length. _____
28. A parallelogram has a right angle. _____
29. a rhombus is a parallelogram. _____

In 30–33, complete the sentence.

30. A parallelogram is a quadrilateral with _____.
31. A rectangle is a quadrilateral with _____.
32. A rhombus is a quadrilateral with _____.
33. A square is a quadrilateral with _____.

REVIEW Lesson 6-2, Objective A

In 34 and 35, T' is the reflection image of point T over line r .



34. Describe the relationship between $T'O$ and TO in terms of length.
- _____

35. What is $m\angle TOM$? _____

6-8A Lesson Master

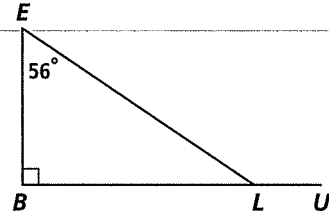
Questions on SPUR Objectives
See pages 424–427 for objectives.

SKILLS Objective D

In 1–10, find the measure of the indicated angles.

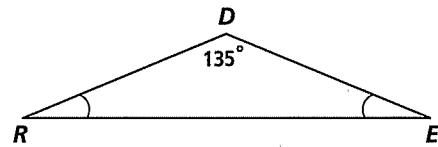
1. $m\angle BLE =$ _____

2. $m\angle ELU =$ _____



3. $m\angle R =$ _____

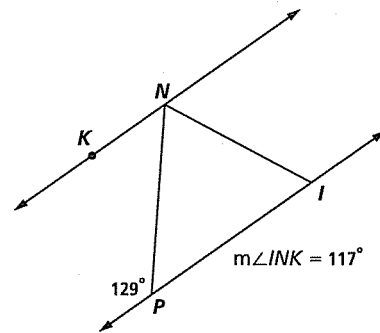
4. $m\angle RED =$ _____



5. $m\angle PNK =$ _____

6. $m\angle INP =$ _____

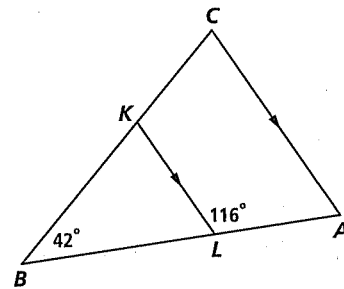
7. $m\angle PIN =$ _____



8. $m\angle BKL =$ _____

9. $m\angle BCA =$ _____

10. $m\angle LAC =$ _____



PROPERTIES Objective H

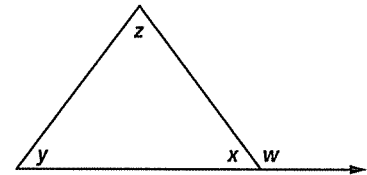
11. How many right angles can one triangle contain? Why?

12. *True or false.* The sum of two measures of the angles in a quadrilateral is 360° . Explain.

In 13 and 14, use the drawing at the right.

13. How are $m\angle w$ and $m\angle x$ related?

14. How are $m\angle w$, $m\angle y$, and $m\angle z$ related?



15. Find the sum of the measures of the interior angles of a decagon (a 10-sided polygon). Explain how you found your answer.

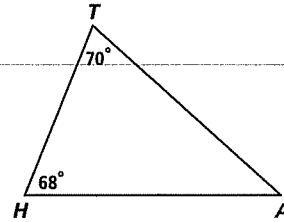
16. Using the information from Question 15, what is the measure of an interior angle of a regular decagon? _____

6-8B Lesson Master

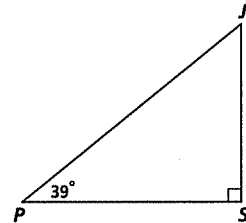
SKILLS Objective D: Use the Triangle-Sum Property to find measures of angles.

In 1-12, find the measure of the indicated angles.

1. $m\angle A =$ _____

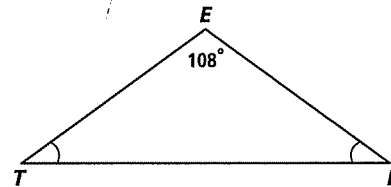


2. $m\angle J =$ _____



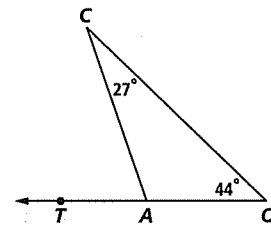
3. $m\angle TIE =$ _____

4. $m\angle T =$ _____



5. $m\angle CAO =$ _____

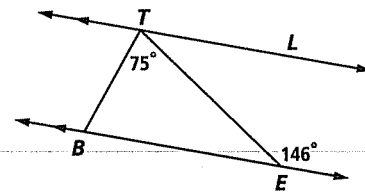
6. $m\angle CAT =$ _____



7. $m\angle TEB =$ _____

8. $m\angle EBT =$ _____

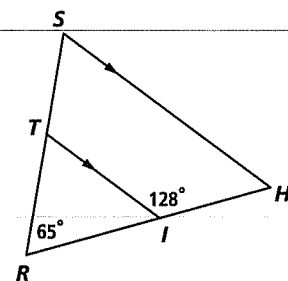
9. $m\angle LTE =$ _____



10. $m\angle RTI =$ _____

11. $m\angle RSH =$ _____

12. $m\angle RHS =$ _____

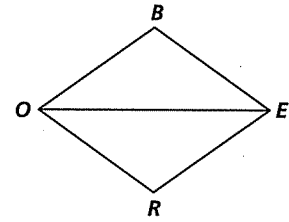


PROPERTIES

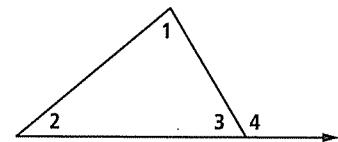
Objective H: Explain consequences of the Triangle-Sum Property.

13. Can a single triangle have an acute angle, a right angle, and an obtuse angle? If so, draw an example to the right. If not, explain why not.

14. Quadrilateral *ROBE* at the right is a rhombus. What is the sum of the measures of its four angles? Explain how you know this.



15. Refer to the diagram at the right. Give three different addition sentences relating the measures of the angles.

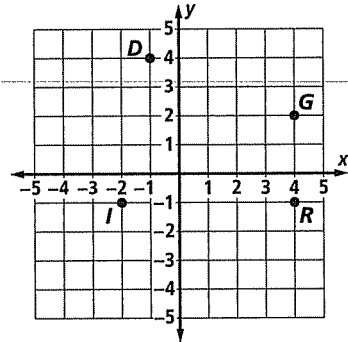


6-9A Lesson Master

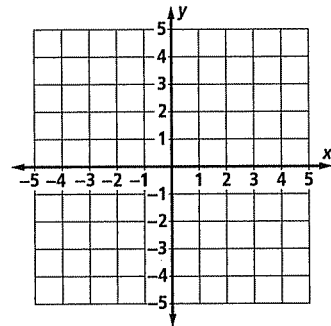
Questions on SPUR Objectives
See pages 424–427 for objectives.

REPRESENTATIONS Objective K

In 1–4, use the coordinate plane at the right to find distances.



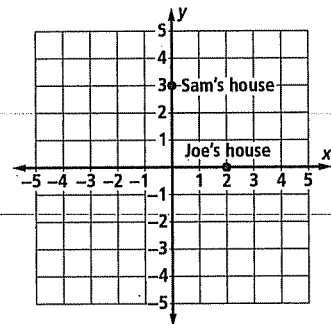
1. Find GR . _____
2. Find RI . _____
3. Find ID . _____
4. Find DG . _____
5. Two points have the same x -coordinate, (m, n) and (m, p) .
 - a. Is the segment connecting them horizontal or vertical? _____
 - b. How long is the segment joining the points? _____
6. Two points have the same y -coordinate, (s, t) and (u, t) .
 - a. Is the segment connecting them horizontal or vertical? _____
 - b. How long is the segment joining the points? _____
7. $\triangle TRY$ has vertices $T = (1, 1)$, $R = (0, -4)$, and $Y = (-1, 3)$.



- a. Draw a picture of $\triangle TRY$ on the axes provided.
- b. Find the perimeter of $\triangle TRY$ exactly.

- c. Find the perimeter of $\triangle TRY$ correct to the nearest tenth. _____

8. Joe and Sam live in the houses marked at the right. The interval between tick marks represents a distance of one block, and there are 8 blocks in a mile. Joe and Sam have a pair of walkie-talkies that will work up to one-half mile apart. Will they be able to use them if they are both at home? Explain.



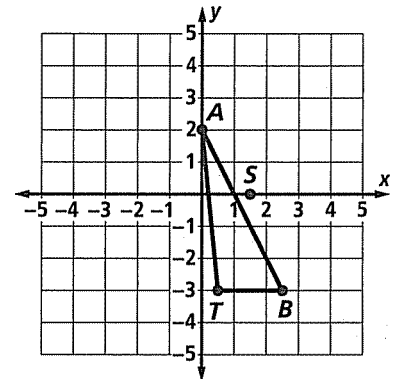
6-9B Lesson Master**REPRESENTATIONS**

Objective K: Calculate the distance between two points on the coordinate plane.

In 1–6, calculate the distance between the two points on the coordinate plane. The distance is measured in “units.” Give your answer to the nearest tenth.

- $(2, -9)$ and $(6, 0)$ _____
- $(3.5, 5)$ and $(3.5, -2)$ _____
- $(\frac{-1}{2}, -0.5)$ and $(0.4, 3)$ _____
- $(0, 0)$ and $(0.3, -5)$ _____
- $(\frac{3}{2}, \frac{3}{2})$ and $(\frac{13}{2}, \frac{3}{2})$ _____
- $(3.2, -6.4)$ and $(-0.7, -5.3)$ _____

7. Use the graph at the right. A , B , and T represent the homes of students Alison, Branden, and Tam, respectively. $S = (1.5, 0)$ is the location of their school. Each unit on the grid represents 1 mile, but the students can go directly through fields from point to point. Give all answers to the nearest tenth.



- Give the coordinates of B , A , and T .

 - How far does Branden live from school? _____
 - How far does Alison live from school? _____
 - How far does Tam live from school? _____
 - If Tam goes to Branden’s house and then to school, how much farther does she travel than if she went to school directly? _____
8. Pat was driving through a rural area where all roads formed a right-angle grid and were spaced 1 mile apart. He drove 3 miles north, 2 miles east, 4 miles north, 5 miles west and 1 mile south. To the nearest tenth mile, how far is he from his starting point? _____

9. On a grid measured in blocks, the vertices of a triangular-shaped mall are (3, 5), (4, 7), and (5, 5).

a. To the nearest tenth, what is the distance of each side of the mall?

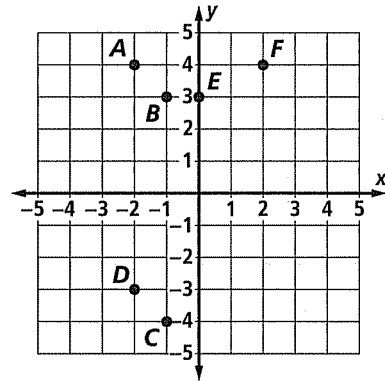
b. To the nearest tenth, how far would a person walk if he or she walked around the outside of the entire mall? _____

In 10–12, use the coordinate graph at the right.

10. $ABCD$ is a parallelogram. Find its perimeter to the nearest tenth unit.
- _____

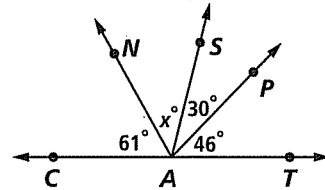
11. Is $\triangle DCE$ isosceles? Explain why or why not.
- _____

12. Is $\triangle AEF$ isosceles? Explain why or why not.
- _____



REVIEW Lesson 6-5, Objective F

13. $\angle CAT$ is a straight angle. Find the measure of $\angle NAP$.
- _____

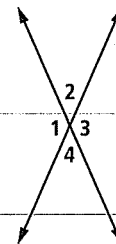


14. Two lines intersect at the right. If $m\angle 1 = d$, give the other measures.

a. $m\angle 2 =$ _____

b. $m\angle 3 =$ _____

c. $m\angle 4 =$ _____



15. In the figure at the right, $m\angle FOG = 78^\circ$. What is the measure of $\angle FOR$?
- _____

