# Fourth Grade Answer Key Unit 7: Geometry

Page 2 Blackline Masters Page 14 Cards

#### Lesson 1

Find the area and perimeter of the square below.

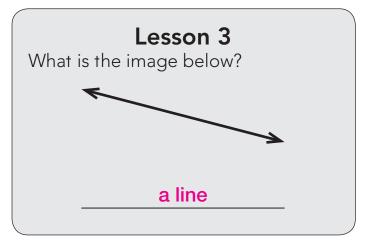
13 in.

Perimeter: 52 in

Area: **169 sq. in.** 

#### Lesson 2

Draw a line and place a point on the line in the space below.



#### Lesson 4

Draw images for the terms below.

Parallel lines:

Perpendicular lines:

Intersecting lines:



#### Lesson 5

Draw images for the terms below.

right angle:

acute angle:

obtuse angle:

#### Lesson 6

Which of the following always intersect at a 90-degree angle? Draw an example of each choice.

- A. intersecting lines
- B. perpendicular lines
- C. parallel lines
- D. line segments

#### Lesson 7

Examine the circle below and determine the amount shaded.

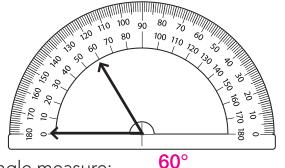


144

degrees

#### Lesson 8

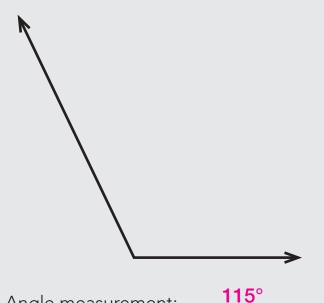
Determine the angle measure below.



Angle measure:

Lesson 9

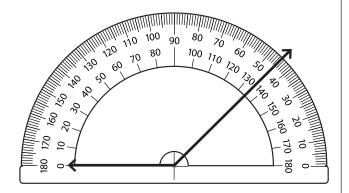
Use a protractor to measure the following angle.



Angle measurement:

#### Lesson 10

Identify the type of angle shown below and then determine its measure.

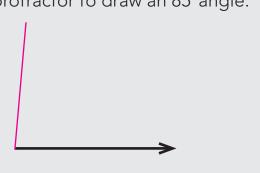


Angle name: obtuse angle

Angle measure: \_\_\_\_

#### Lesson 11

Use a protractor to draw an 85° angle.



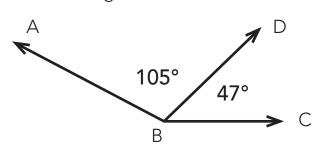
#### Lesson 14

 $\angle$ EFG has a measure of 154°. If  $\angle$ EFH has a measure of 39°, what is the measure of angle  $\angle$ HFG?

- **A.** 105°
- **B.** 155°
- **C.** 115°
- **D.** 135°

#### Lesson 12

Find the angle measure below.



∠ABC measure= \_\_\_\_\_152°

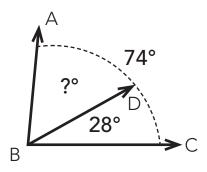
#### Lesson 15

 $\angle$ JKL is divided into seven equal angles. Each angle measures 41°. What is the measure of  $\angle$ JKL?

- **A.** 271°
- **B.** 287°
- **C.** 294°
- **D.** 301°

#### Lesson 13

Find the angle measure below.



 $\angle$ ABD measure = \_\_\_\_\_46°

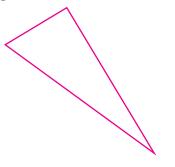
#### Lesson 16

Gina cut a round cake into three equal slices. What is the angle measurement of each slice?

Answer: 152 degrees

#### Lesson 17

Draw an example of a scalene triangle.



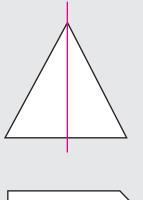
#### Lesson 18

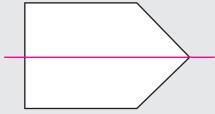
Mr. Davis drew a quadrilateral on the board that had two sets of parallel lines, four sides equal in length, and no right angles. What shape did Mr. Davis draw?

- A. trapezoid
- **B.** rhombus
- C. rectangle
- **D.** parallelogram

#### Lesson 19

Draw the lines of symmetry on the following shapes:





#### Lesson 20

Explain the difference between a rhombus and a square.

Sample answer: A square has

four right angles and a rhombus does not.

## Pre-Assessment

Read each question below and solve.

**1.** Which of the following images is a line segment?

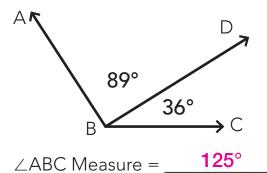




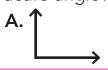


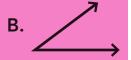


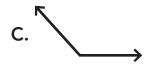
**3.** Examine the angles below and solve for the missing measure.



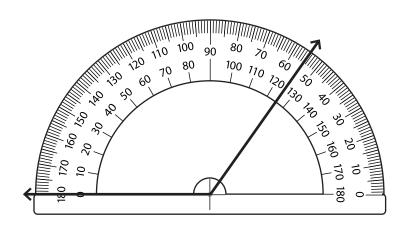
2. Which of the following images is an acute angle?







- **4.** Jamie drew a quadrilateral that has four right angles and sides that are all equal in length. What quadrilateral did Jamie draw?
  - A. rectangle
  - **B.** trapezoid
  - C. square
  - **D.** rhombus
- 5. Using the protractor, determine the measure of the angle below.
  - **A.** 55°
  - **B.** 125°
  - **C.** 105°
  - **D.** 115°



## Points, Lines, and Angles Quiz

Write a word from the word bank that matches each definition.

#### **Word Bank**

line right angle plane

parallel lines acute angles line segment intersecting lines point obtuse angles

perpendicular lines

- 1. A neverending and continuous path that goes in opposite directions
- line
- The type of angle that forms a 3. 90-degree angle right angle
- Lines that pass through each other 5. and create square corners perpendicular lines
- Lines that pass through each other at 7. the same point intersecting lines
- 9. Lines that travel in the same direction and never intersect parallel lines

2. An endless flat surface

#### plane

4. A marked location on a line

#### point

- 6. The type of angle that has a larger opening than 90 degrees
  - obtuse angles
- A part of a line with two points at 8. either end

#### line segment

10. The type of angle that has a smaller opening than 90 degrees acute angles

Look at each image below and identify the image shown.



- A. intersecting lines
- **B.** parallel lines
- **C.** line segments
- D. right angle

12.



- A. parallel lines
- B. right angle
- C. point
- D. obtuse angle

13. €



- A. point
- B. perpendicular line
- C. line
- D. acute angle

14.



- A. perpendicular lines
- **B.** plane
- C. line segment
- **D.** line





- **A.** acute angle
- **B.** line segment
- C. parallel lines
- **D.** perpendicular lines

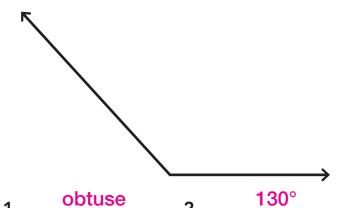


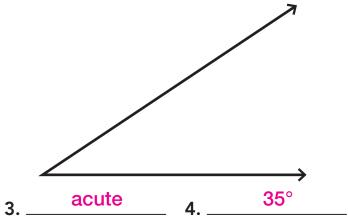


- **A.** plane
- B. right angle
- C. point
- **D.** acute angle

# Angle Measurement Quiz

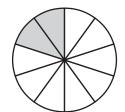
Name each angle below (right, acute, or obtuse). Then measure each angle using a protractor and record the measure.





Record the measure of each angle using the shaded fraction of a circle.

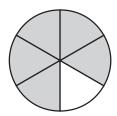
5.



Degrees shaded:

**72°** 

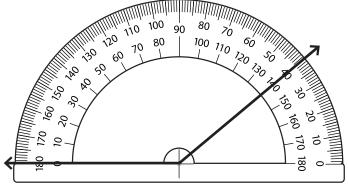
6.



Degrees shaded:

300°

#### Examine each angle.



Which type of angle is shown above?

C. acute

- What is the degree measure of the angle above?
  - **A.** 40°

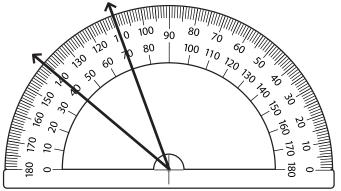
A. right

- **B.** 80°
- **C.** 110°

20

**D.** 140°

**B.** obtuse

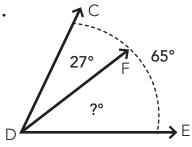


- Which type of angle is shown above?
  - A. right
- **B.** obtuse
- C. acute
- 10. What is the degree measure of the angle above?
  - **A.** 20°
- **B.** 25°
- **C.** 30°
- **D.** 35°

# Measuring Angles Quiz

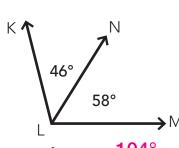
Examine each problem and solve for the missing angle measure.

1.



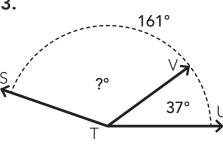
Measure of  $\angle$ FDE:  $38^{\circ}$ 

2.



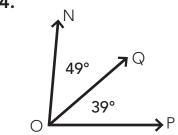
Measure of ∠KLM: 104°

3.



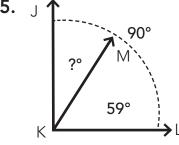
Measure of ∠STV: 124°

4.



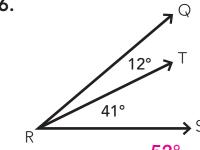
Measure of  $\angle$ NOP:  $88^{\circ}$ 

5.



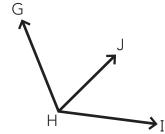
Measure of ∠JKM: 31°

6.



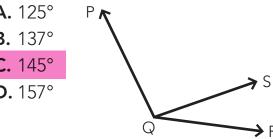
Measure of  $\angle$ QRS:  $53^{\circ}$ 

- ∠GHI has a measure of 125°. If ∠GHJ has a measure of 75°, what is the measure of angle ∠JHI?
  - **A.** 50°
  - **B.** 60°
  - **C.** 55°
  - **D.** 65°



- Max drew eight identical angles that 8. all share the same vertex. If the sum of all the angles is 320°, what is the measure of each angle?
  - **A.** 30°
  - **B.** 34°
  - **C.** 40°
  - **D.** 44°
- ∠WXY is divided into 4 equal angles. Each angle measures 89°. What is the measure of ∠WXY?
  - **A.** 322°
  - **B.** 344°
  - **C.** 356°
  - **D.** 360°

- **10.**  $\angle$ SQR has a measure of 27°. If  $\angle$ PQS has a measure of 118°, what is the measure of angle ∠PQR?
  - **A.** 125°
  - **B.** 137°
  - **C.** 145°
  - **D.** 157°



## Quadrilateral Sort

Read each description below and match the quadrilateral shape and image to the correct description. Include all shapes that match.

1. • Four sides



- 2. All sides equal in length
  - Two sets of parallel lines



- 3. Four right angles
  - Four sides equal in length
  - Two sets of parallel lines



- **4.** Two sets of parallel lines
  - Opposite sides equal in length



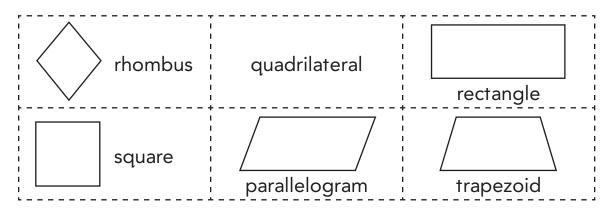
**5.** • One set of parallel lines



- 6. Four right angles
  - Two sets of parallel lines
  - Opposite sides equal in length



Cut out each quadrilateral and match to the correct description.

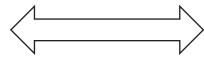


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# Geometric Figures Quiz

Read and answer the questions below.

- Wyatt drew a shape that has four sides that are equal in length, but does not have right angles. What shape did Wyatt draw?
  - A. square
- **B.** rhombus
- C. rectangle
- **D.** parallelogram
- How many lines of symmetry can be 3. drawn on the shape below?



**A.** 1

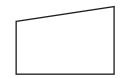
- **B.** 3
- **C**. 2 **D.** 4
- Which of the shapes below is an isosceles triangle?







What shape is shown below?

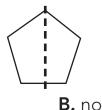


- A. rhombus
- **B.** parallelogram
- C. square
- D. trapezoid
- Lincoln drew a shape that has four 9. sides, two sets of parallel lines, and four right angles. What shape did Lincoln draw?
  - A. trapezoid
- **B.** parallelogram
- C. rhombus
- D. rectangle

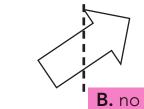
What shape is shown below? 2.



- A. isosceles triangle B. equilateral triangle
- **C.** quadrilateral
- D. scalene triangle
- Determine if the line drawn on the shape below is a line of symmetry.



- A. yes
- Missy drew a four-sided shape that has no sides equal in length, no parallel lines, and no right angles. What shape did Missy draw?
  - A. rectangle
- **B.** parallelogram
- C. rhombus
- **D.** quadrilateral
- Determine if the line drawn on the 8. shape below is a line of symmetry.



10. How many lines of symmetry can be drawn on the shape below?



**A.** 1

A. yes

- **B.** 3
- **D**. 4

## Assessment

acute angle line of symmetry parallelogram

#### Word Bank

rectangle right angle intersecting lines

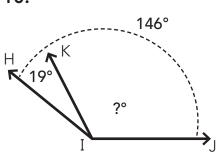
parallel lines square scalene triangle

Use the word bank above to complete the definitions below.

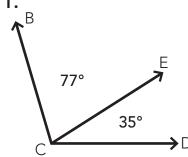
- 1. parallel lines will never touch.
- **2.** A <u>rhombus</u> is a quadrilateral that has two sets of parallel lines, but no right angles.
- of triangle that has three sides of different lengths.
- 4. A <u>rectangle</u> is a foursided figure whose opposite sides are equal in length and has four right angles.
- 5. <u>intersecting lines</u> cross each other at a point.
- 6. The type of angle that is smaller than 90 degrees is the **acute angle**.
- 7. A <u>square</u> has four right angles, four sides of equal length, and two sets of parallel lines.
- **8.** A <u>line of symmetry</u> divides a shape into two equal parts.
- 9. The type of angle that measures exactly 90 degrees is the right angle

Find the measure of the angles below.

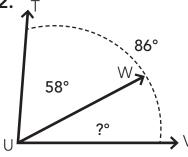
10.



11



12.



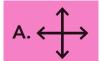
Measurement of  $\angle$ KIJ:  $127^{\circ}$ 

Measurement of  $\angle$ BCD:  $112^{\circ}$ 

Measurement of  $\angle$ WUV: 28

#### Read the problems below and solve.

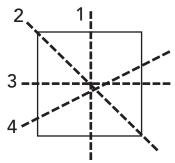
- **13.** Shannon drew a shape on her paper that had one set of parallel lines and no right angles. What shape did Shannon draw?
  - A. rhombus
  - B. rectangle
  - C. parallelogram
  - D. trapezoid
- **15.** Shelly drew perpendicular lines on the board. Which image below illustrates perpendicular lines?





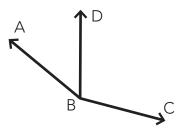


- **17.** Examine the shape below. Determine which line is not a line of symmetry.
  - A. Line 1
  - **B.** Line 2
  - **C.** Line 3
  - **D.** Line 4



- 19. Leo made an apple pie for dessert. He divided the pie into 9 equal slices. What is the angle measure of each slice?
  - **A.** 50°
  - **B.** 35°
  - **C.** 45°
  - **D.** 40°

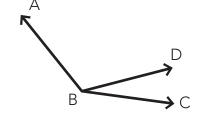
- **14.** ∠ABC has a measure of 175°. If ∠ABD has a measure of 59°, what is the measurement of angle ∠DBC?
  - **A.** 106°
  - **B.** 116°
  - **C.** 126°
  - **D.** 136°



- **16.** Maddie drew a rectangle on her paper. Which of the following is not a characteristic of a rectangle?
  - A. four right angles
  - **B.** one set of parallel lines
  - C. two sets of parallel lines
  - **D.** four sides
- **18.** Jenny drew an obtuse angle, ∠ABC, that measured 145°. If angle ∠ABD measures 129°, what is the measure of ∠DBC?

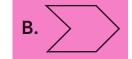


- **B.** 16°
- **C.** 21°
- **D.** 25°



**20.** Weston drew a quadrilateral on the board. Which of the following shapes could not have been drawn?



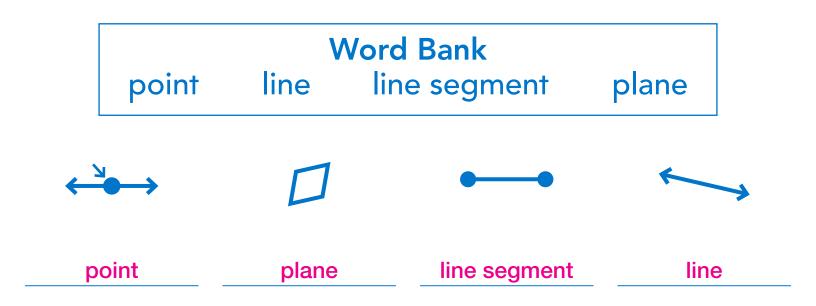




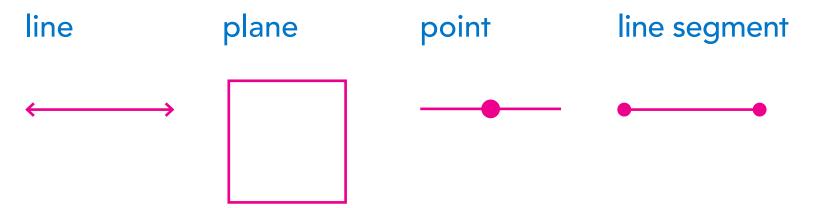
Use the words in the word bank below to identify each definition.

	Word Bank				
	point	line	line segment	plane	
	line A never-ending and continuous pate that goes in opposite directions				
	plane An endless flat surface				
point		A m	_ A marked location on a line		
lii	ne segment		_ A piece of a line with two points at either end		

Examine each image below and label with the correct term from the word bank.



## Practice drawing each term below.



Use the words in the word bank below to identify each definition.

Word Bank
perpendicular lines parallel lines intersecting lines

perpendicular lines
Lines that pass through each other and create square corners or right angles
Lines that pass through each other at the same point

parallel lines
Lines that travel in the same direction and never intersect

# Examine each image below and label with the correct line name.



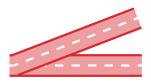
parallel lines



perpendicular lines



intersecting lines



intersecting lines



perpendicular lines



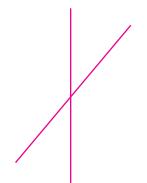
parallel lines

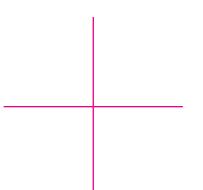
Practice drawing each term below.

parallel lines

intersecting lines

perpendicular lines





Use the words in the word bank below to identify each definition.

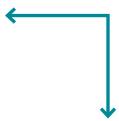
right angle	acute angle	obtuse angle	
obtuse angle	The type of angle that has a larger opening than a 90-degree angle		
right angle	_ The type of angle that forms a 90-degree angle		
acute angle		ne type of angle that has a smaller bening than a 90-degree angle	

Mard Dards

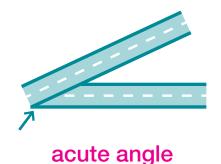
Examine each image below and label with the correct angle name.



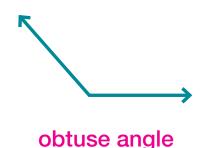
obtuse angle

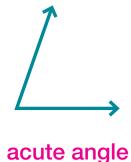


right angle

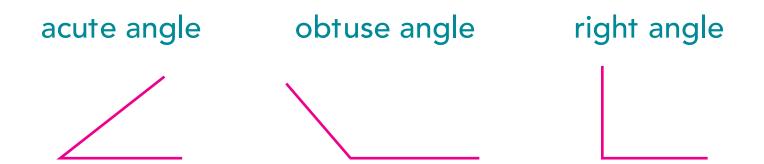


right angle

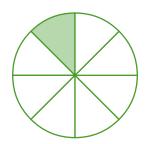




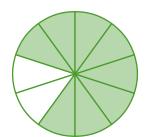
## Practice drawing each term below.



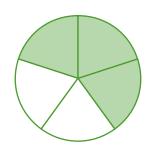
# Record the measure of an angle using the shaded fraction of a circle.



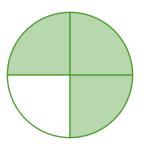
Degrees shaded: 45 degrees



Degrees shaded: 288 degrees



Degrees shaded: 216 degrees

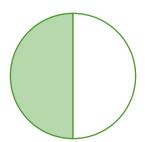


Degrees shaded: 270 degrees

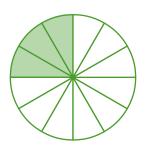
# Record the measure of an angle using the shaded fraction of a circle.



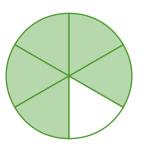
Degrees shaded: 120 degrees



Degrees shaded: 80 degrees



Degrees shaded: 90 degrees



Degrees shaded: 300 degrees

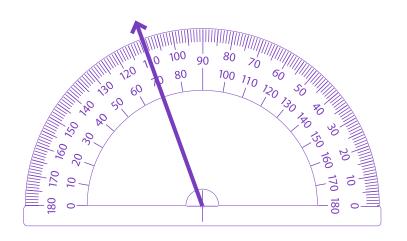
Read the problems below. Draw a model and solve.

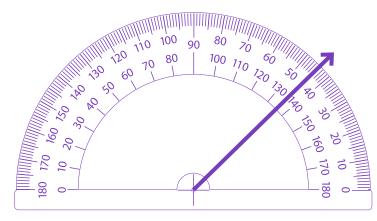
Find the measure of the angle that represents  $\frac{2}{4}$  of a circle.

Find the measure of the angle that represents  $\frac{5}{6}$  of a circle.

180 degrees

## Use the protractors below to measure each angle.



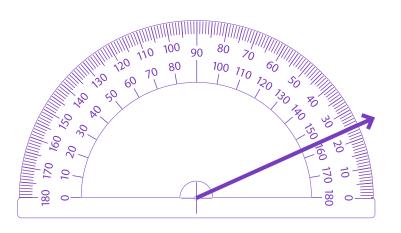


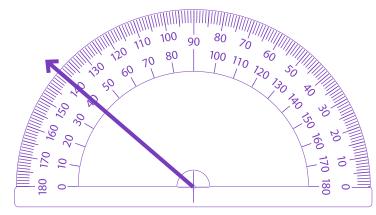
Angle degree: \_

70 degrees

Angle degree:

## Use the protractors below to measure each angle.

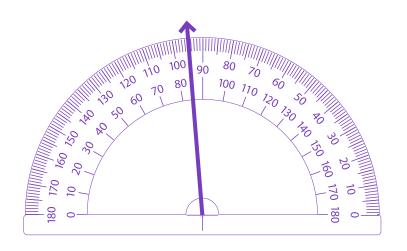


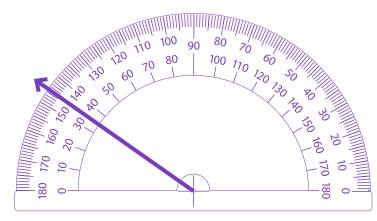


Angle degree: 155 degrees

Angle degree:

## Use the protractors below to measure each angle.

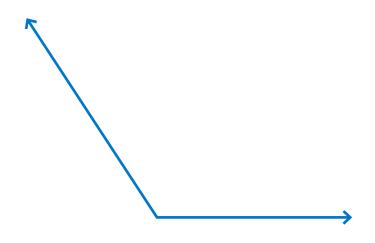




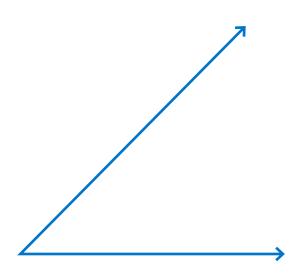
Angle degree: \_

85 degrees

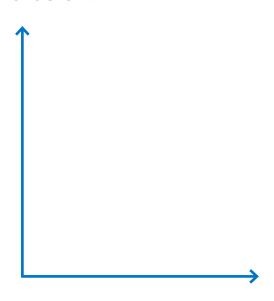
Angle degree:



obtuse angle



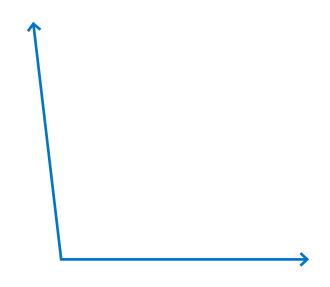
acute angle



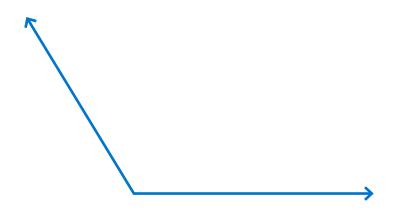
right angle



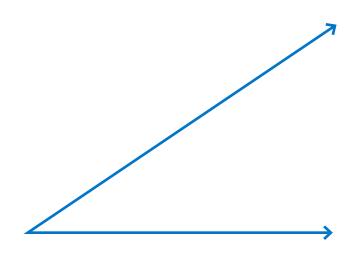
acute angle



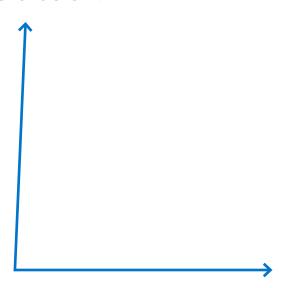
#### obtuse angle



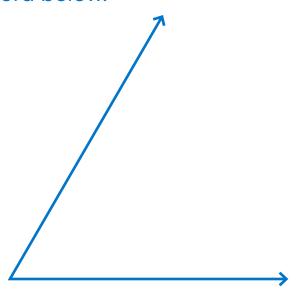
#### obtuse angle



acute angle



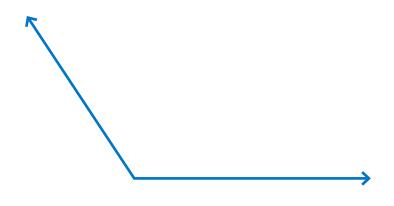
#### acute angle



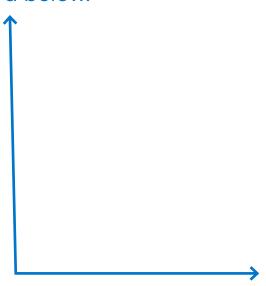
acute angle



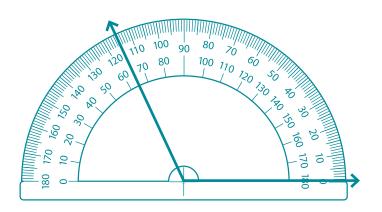
#### acute angle



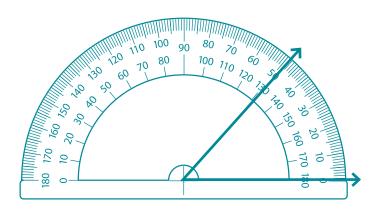
### obtuse angle



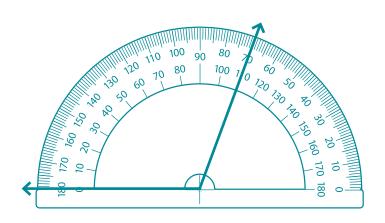




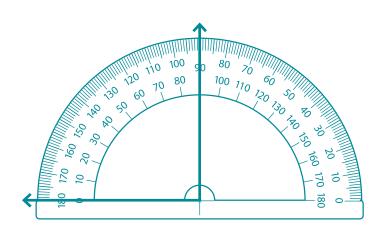
#### obtuse angle



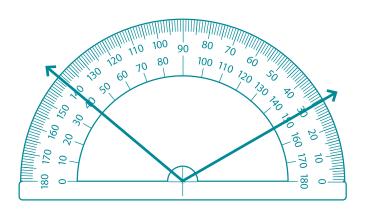
acute angle



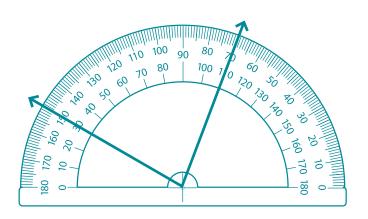
obtuse angle



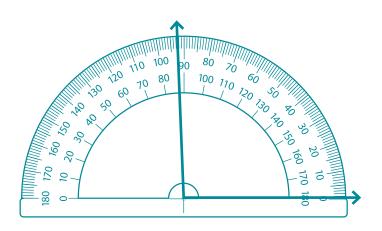
### right angle



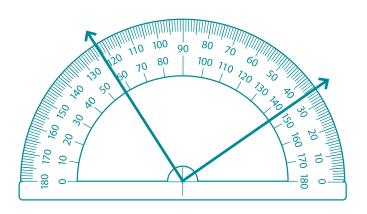
obtuse angle



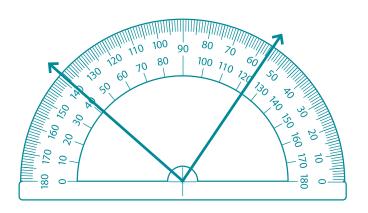
acute angle



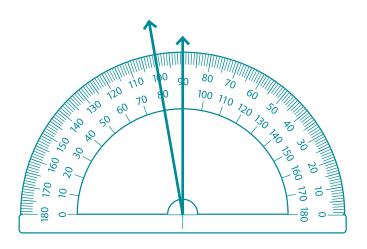
#### obtuse angle



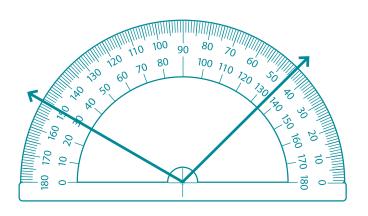
acute angle



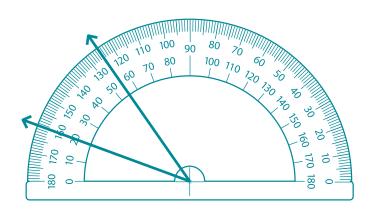
acute angle



#### acute angle

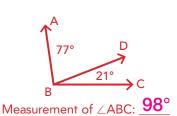


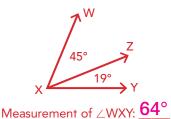
obtuse angle

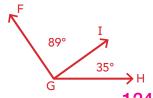


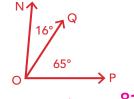
acute angle

## Examine each angle below. Find the total measurement of each angle listed.



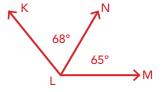


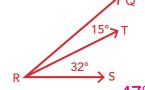












Measurement of ∠KLM: 133°

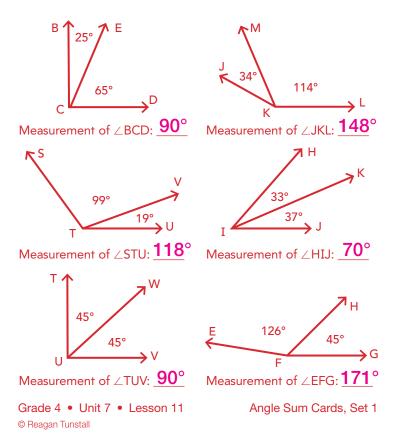
Measurement of  $\angle QRS$ :  $47^\circ$ 

Grade 4 • Unit 7 • Lesson 11

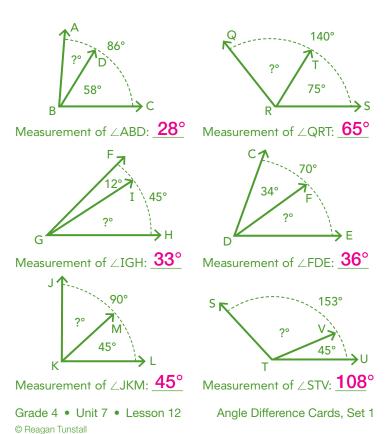
Angle Sum Cards, Set 1

© Reagan Tunstall

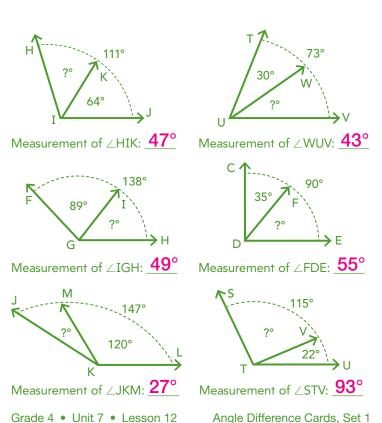
## Examine each angle below. Find the total measurement of each angle listed.



### Examine each angle below. Find the measure of each missing angle.

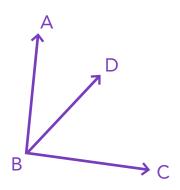


### Examine each angle below. Find the measure of each missing angle.



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 $\angle$ ABC has a measure of 116°. If  $\angle$ ABD has a measure of 47°, what is the measure of angle  $\angle$ DBC?



A. 53°

B. 55°

C. 59°

D. 69°

Joseph cut a round cake into 5 equal slices. What is the angle measure of each slice cut?

A. 62°

B. 72°

C. 36°

D. 56°

∠RST is divided into two smaller angles by a ray. Both angles are acute. Which of the following could be a measure of ∠RST?

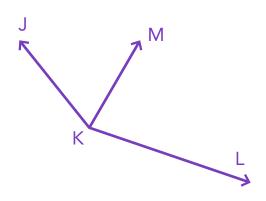
A. 185°

B. 180°

C. 178°

D. 190°

 $\angle$ JKM has a measure of 75°. If  $\angle$ MKL has a measure of 82°, what is the measure of angle  $\angle$ JKL?



A. 147°

B. 153°

C. 157°

D. 163°

Ryan drew the angle ∠LMN on his paper. He then drew a ray that divided the angle into two equal halves. If ∠LMN measures 114°, what is the measure of each of the two smaller angles?

A. 57°

B. 47°

C. 53°

D. 43°

Aubrey drew six identical angles that all share the same vertex. If the sum of all the angles is 324°, what is the measure of each angle?

A. 75°

B. 64°

C. 54°

D. 45°

Each triangle below has two names. Label the triangle correctly according to its attributes.



Triangle: equilateral, acute



Triangle: scalene, acute



Triangle: scalene, right



Triangle: isosceles, acute



Triangle: scalene, right



Triangle: equilateral, acute

Grade 4 • Unit 7 • Lesson 15

Classifying Triangles Cards,

Set 1

Each triangle below has two names. Label the triangle correctly according to its attributes.



Triangle: isosceles, acute



Triangle: scalene, right



Triangle: scalene, acute



Triangle: equilateral, acute



Triangle: scalene, right



Triangle: isosceles, acute

Grade 4 • Unit 7 • Lesson 15

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.011 10

Classifying Triangles Cards, Set 1

Word Bank	square trap	pezoids	parallelogram	rhombus	rectangle
parallel sides. The in lengt sides that are parallel are equal in length.			sides are equal h and I have ht angles.	I have four right angles and my opposite sides are equal in length.	
Shape: square					
Shape: _	parallelogram				
Shape: _	rhombus				
Shape: _	rectangle	Shape:	square	Shape:	rectangle
I have sides that are all equal in I have only one set of parallel sides length, but no right angles.					
Shape: _	rhombus		Shape:	trapezoids	
Grade 4 • Unit 7 • Lesson 16				Quadrilate	ral Riddles Card

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Quadrilateral Riddles Card

Mrs. White drew a quadrilateral on the board that had all equal sides, but was not a square. What shape did Mrs. White draw?

- A. trapezoid
- B. rhombus
- C. rectangle
- D. parallelogram

Harry drew a rectangle on his paper. Which of the following is not a characteristic of a rectangle?

- A. four sides of equal length
- B. four right angles
- C. two sets of parallel lines
- D. opposite sides equal in length

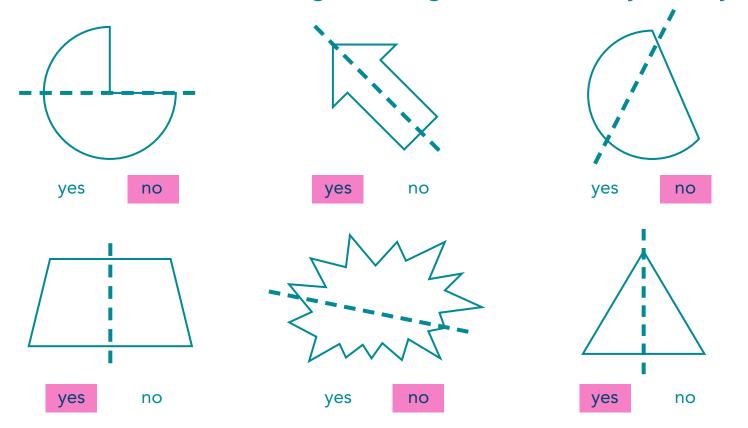
Reagan drew a shape with one set of parallel lines and no right angles or sides of equal length. What shape did Reagan draw?

- A. pentagon
- B. rectangle
- C. trapezoid
- D. square

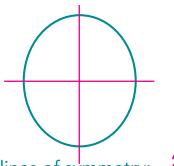
Kendall wanted to make a parallelogram on her paper. Which of the following facts does Kendall need to know about a parallelogram?

- A. A parallelogram is a polygon.
- B. A parallelogram has four right angles.
- C. A parallelogram has sides equal in length.
- D. A parallelogram has two sets of parallel sides, but no right angles.

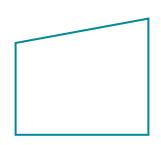
### Determine if the line through each figure is a line of symmetry.



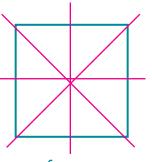
Examine each shape below and draw as many lines of symmetry as possible.



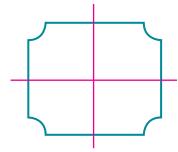
# of lines of symmetry: 2



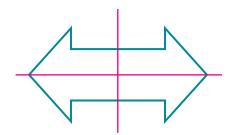
# of lines of symmetry: \_\_\_\_\_\_



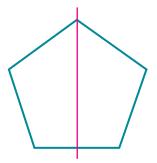
# of lines of symmetry: 4



# of lines of symmetry: 2



# of lines of symmetry: 2



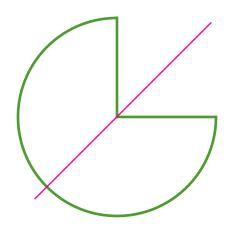
# of lines of symmetry: \_\_\_\_\_\_

### Identify the shape below.

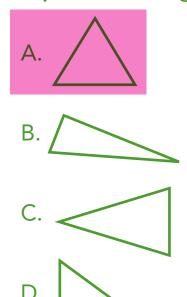


trapezoid

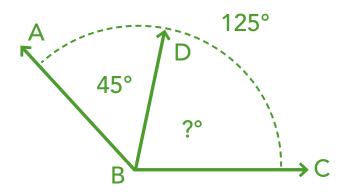
Draw the line(s) of symmetry on the shape below.



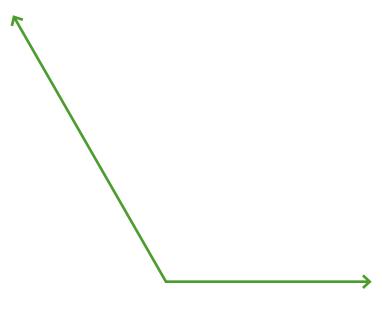
# Which of the shapes below is an equilateral triangle?



Examine the angles below and solve for the measure of the missing angle.

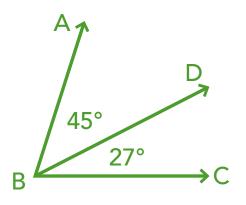


Name the angle below and then measure the angle using a protractor.



obtuse angel, 120°

Examine the angles below and solve for the measure of the missing angle.



$$\angle ABC = \underline{\phantom{ABC}}$$

Marcy drew a shape that had two sets of parallel sides, but no right angles. What shape did Marcy draw?

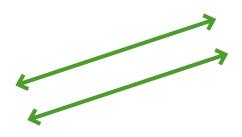
A. trapezoid

B. square

C. parallelogram

D. rectangle

## What types of lines are shown below?

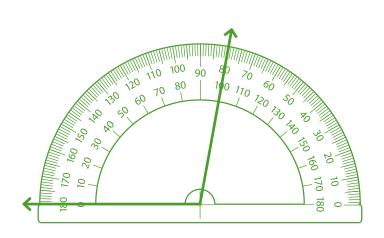


A. perpendicular lines

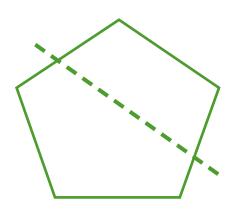
B. parallel lines

C. intersecting lines

# Measure the angle below using the protractor.



Determine if the line drawn on the shape below is a line of symmetry.



A. yes

B. no

Mr. Davis cut a pie into eight equal pieces. What is the angle measure of each piece?

A. 35°

B. 45°

C. 55°

D. 65°

Robin drew two acute angles that had a total measurement of 84°. If one of the angles measures 45°, what is the measure of the other angle?