# Fourth Grade Answer Key Unit 7: Geometry 

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$\qquad$

## Problem of the Day

## Lesson 1

Find the area and perimeter of the square below.


Perimeter: $\qquad$
Area: 169 sq. in.

## Lesson 2

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


## Lesson 5

Draw images for the terms below. right angle:

acute angle:

obtuse angle:

$\qquad$

## Problem of the Day

## 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:
$60^{\circ}$

## Lesson 9

Use a protractor to measure the following angle.


Angle measurement:
$115^{\circ}$

## Lesson 10

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


Angle name: obtuse angle
Angle measure: $135^{\circ}$
$\qquad$

## Problem of the Day

## Lesson 11

Use a protractor to draw an $85^{\circ}$ angle.


## Lesson 12

Find the angle measure below.

$\angle A B C$ measure $=$ $\qquad$

Lesson 13
Find the angle measure below.

$\angle \mathrm{ABD}$ measure $=$ $\qquad$

## Lesson 15

$\angle J K L$ is divided into seven equal angles. Each angle measures $41^{\circ}$. What is the measure of $\angle \mathrm{JKL}$ ?
A. $271^{\circ}$
B. $287^{\circ}$
C. $294^{\circ}$
D. $301^{\circ}$
$\qquad$

## Problem of the Day

## 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.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Pre-Assessment

Read each question below and solve.

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

2. $\square$
C. $\stackrel{\searrow}{\longleftrightarrow}$
D. $\longleftrightarrow$
3. Examine the angles below and solve for the missing measure.

$\angle \mathrm{ABC}$ Measure $=$ $\qquad$
4. Which of the following images is an acute angle?

5. 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
6. Using the protractor, determine the measure of the angle below.
A. $55^{\circ}$
B. $125^{\circ}$
C. $105^{\circ}$
D. $115^{\circ}$

$\qquad$

## Points, Lines, and Angles Quiz

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

| Word Bank |  |  |  |
| :---: | :---: | :---: | :---: |
| line | parallel lines <br> right angle <br> acute angles <br> line segment |  |  | | intersecting lines |
| :---: |
| point |
| obtuse angles |$\quad$ perpendicular lines

1. A neverending and continuous path that goes in opposite directions line
2. The type of angle that forms a 90 -degree angle
right angle
3. Lines that pass through each other and create square corners perpendicular lines
4. Lines that pass through each other at the same point intersecting lines
5. Lines that travel in the same direction and never intersect parallel lines
6. An endless flat surface
plane
7. A marked location on a line
point
8. The type of angle that has a larger opening than 90 degrees obtuse angles
9. A part of a line with two points at 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
14.

A. perpendicular lines
B. plane
C. line segment
D. line
12. $\square$
A. parallel lines
B. right angle
C. point
D. obtuse angle
15.

A. acute angle
B. line segment
C. parallel lines
D. perpendicular lines
13.
A. point
B. perpendicular line
C. line
D. acute angle
16.

A. plane
B. right angle
C. point
D. acute angle
$\qquad$

## 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:

$$
72^{\circ}
$$

## Examine each angle.

6. 



Degrees shaded:
$300^{\circ}$

7. Which type of angle is shown above?
A. right
B. obtuse
C. acute
8. What is the degree measure of the angle above?
A. $40^{\circ}$
B. $80^{\circ}$
C. $110^{\circ}$
D. $140^{\circ}$

9. Which type of angle is shown above?
A. right
B. obtuse
C. acute
10. What is the degree measure of the angle above?
A. $20^{\circ}$
B. $25^{\circ}$
C. $30^{\circ}$
D. $35^{\circ}$
$\qquad$

## Measuring Angles Quiz

Examine each problem and solve for the missing angle measure.


Measure of $\angle \mathrm{FDE}: \underline{38^{\circ}}$
4.


Measure of $\angle$ NOP: ${88^{\circ}}^{\circ}$
2.


Measure of $\angle K L M: \underline{104}^{\circ}$
5.


Measure of $\angle \mathrm{JKM}: \underline{31^{\circ}}$


Measure of $\angle \mathrm{STV}$ : $\underline{124}^{\circ}$
6.


Measure of $\angle \mathrm{QRS}: \underline{53^{\circ}}$
7. $\angle \mathrm{GHI}$ has a measure of $125^{\circ}$. If $\angle \mathrm{GHJ}$ has a measure of $75^{\circ}$, what is the measure of angle $\angle \mathrm{JHI}$ ?

9. $\angle W X Y$ is divided into 4 equal angles. Each angle measures $89^{\circ}$. What is the measure of $\angle W X Y$ ?
A. $322^{\circ}$
B. $344^{\circ}$
C. $356^{\circ}$
D. $360^{\circ}$
8. Max drew eight identical angles that all share the same vertex. If the sum of all the angles is $320^{\circ}$, what is the measure of each angle?
A. $30^{\circ}$
B. $34^{\circ}$
C. $40^{\circ}$
D. $44^{\circ}$
10. $\angle S Q R$ has a measure of $27^{\circ}$. If $\angle P Q S$ has a measure of $118^{\circ}$, what is the measure of angle $\angle P Q R$ ?
A. $125^{\circ}$
B. $137^{\circ}$
C. $145^{\circ}$
D. $157^{\circ}$

$\qquad$

## 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.     - Four right angles

- Four sides equal in length
- Two sets of parallel lines


5.     - One set of parallel lines
trapezoid
6.     - All sides equal in length

- Two sets of parallel lines

4.     - Two sets of parallel lines

- Opposite sides equal in length
parallelogram

6.     - Four right angles

- Two sets of parallel lines
- Opposite sides equal in length
rectangle

Cut out each quadrilateral and match to the correct description.

$\qquad$

## Geometric Figures Quiz

Read and answer the questions below.

1. 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
2. How many lines of symmetry can be drawn on the shape below?

A. 1
B. 3
C. 2
D. 4
3. Which of the shapes below is an isosceles triangle?

B.

D.

4. What shape is shown below?

A. rhombus
B. parallelogram
C. square
D. trapezoid
5. Lincoln drew a shape that has four sides, two sets of parallel lines, and four right angles. What shape did Lincoln draw?
A. trapezoid
B. parallelogram
C. rhombus
D. rectangle
6. What shape is shown below?

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

A. yes
B. no
8. 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
9. Determine if the line drawn on the shape below is a line of symmetry.
A. yes

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

A. 1
B. 3
C. 2
D. 4
$\qquad$

## Assessment

|  | Word Bank |  |
| :---: | :---: | :---: |
| acute angle | rectangle | parallel lines |
| line of symmetry |  |  |
| parallelogram | right angle | square |
| intersecting lines | scalene triangle |  |

Use the word bank above to complete the definitions below.

1. $\qquad$ parallel lines will never touch.
2. A ___ scalene triangle is a type of triangle that has three sides of different lengths.
3. $\qquad$ cross each other at a point.
4. A $\qquad$ has four right angles, four sides of equal length, and two sets of parallel lines.
5. $A$ rhombus $\qquad$ is a quadrilateral that has two sets of parallel lines, but no right angles.
6. A rectangle is a foursided figure whose opposite sides are equal in length and has four right angles.
7. The type of angle that is smaller than 90 degrees is the acute angle
8. A _ line of symmetry 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.


Measurement of $\angle \mathrm{KIJ}: \underline{127}^{\circ}$
11.


Measurement of $\angle B C D: \underline{112}^{\circ}$


Measurement of $\angle W U V$ :
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?

C.

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. $50^{\circ}$
B. $35^{\circ}$
C. $45^{\circ}$
D. $40^{\circ}$
14. $\angle A B C$ has a measure of $175^{\circ}$. If $\angle A B D$ has a measure of $59^{\circ}$, what is the measurement of angle $\angle D B C$ ?
A. $106^{\circ}$
B. $116^{\circ}$
C. $126^{\circ}$
D. $136^{\circ}$

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, $\angle A B C$, that measured $145^{\circ}$. If angle $\angle A B D$ measures $129^{\circ}$, what is the measure of $\angle D B C$ ?
A. $11^{\circ}$
B. $16^{\circ}$
C. $21^{\circ}$
D. $25^{\circ}$

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


C.

D.


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

line A never-ending and continuous path that goes in opposite directions

plane

An endless flat surface
point
A marked location on a line
line 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.
## Word Bank point line line segment plane


point

plane
line segment
line

## Practice drawing each term below.



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

## Word Bank <br> perpendicular lines <br> parallel lines intersecting lines

perpendicular lines Lines that pass through each other and create square corners or right angles
intersecting lines 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

intersecting lines

perpendicular lines

perpendicular lines

intersecting 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.

## Word Bank

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
The type of angle that has a smaller opening than a 90-degree angle

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

obtuse angle

acute angle

right angle

right angle

acute angle

obtuse angle

## Practice drawing each term below.

acute angle

obtuse angle

right angle


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


Degrees shaded: 45 degrees


Degrees shaded: $\underline{288 \text { degrees }}$


Degrees shaded: 216 degrees


Degrees shaded: $\underline{270 \text { degrees }}$

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


Degrees shaded: 120 degrees


Degrees shaded: 80 degrees


Degrees shaded: $9 \underline{ }$


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
300 degrees

## Use the protractors below to measure each angle.



Angle degree: $\quad 70$ degrees


Angle degree:
135 degrees

## Use the protractors below to measure each angle.



Angle degree: 155 degrees


Angle degree: $\quad 40$ degrees

## Use the protractors below to measure each angle.



Angle degree: 85 degrees


Angle degree: $\quad 35$ degrees

Name the angle below (right, acute, or obtuse). Then measure the angle using a protractor and record below.
obtuse angle
$125^{\circ}$

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


## acute angle

$45^{\circ}$

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


## right angle

## $90^{\circ}$

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

## acute angle <br> $15^{\circ}$

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

obtuse angle
$95^{\circ}$

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


## obtuse angle

$120^{\circ}$

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


## acute angle

$35^{\circ}$

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


## acute angle

$97^{\circ}$

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


## acute angle

$60^{\circ}$

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

## acute angle

$5^{\circ}$

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


## obtuse angle <br> $125^{\circ}$

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


## right angle

$90^{\circ}$

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


## obtuse angle

$115^{\circ}$

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


## acute angle

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


## obtuse angle

## $70^{\circ}$

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


## right angle

## $90^{\circ}$

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


## obtuse angle

$110^{\circ}$

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Protractor Cards, Set 1 © Reagan Tunstall

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


## acute angle

$80^{\circ}$

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


## obtuse angle

$92^{\circ}$

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


## acute angle

$88^{\circ}$

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


## acute angle

$83^{\circ}$

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


## acute angle

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


## obtuse angle

$95^{\circ}$

# Name the angle below (right, acute, or obtuse). Then measure the angle and record below. 



## acute angle <br> $35^{\circ}$

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Protractor Cards, Set 1 © Reagan Tunstall

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


Measurement of $\angle \mathrm{ABC}: \underline{98^{\circ}}$


Measurement of $\angle \mathrm{FGH}: \underline{124}^{\circ}$


Measurement of $\angle \mathrm{KLM}: \underline{133}^{\circ}$
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Examine each angle below. Find the total measurement of each angle listed.


Measurement of $\angle \mathrm{BCD}: \underline{90^{\circ}}$


Measurement of $\angle \mathrm{STU}:{118^{\circ}}^{\circ}$


Measurement of $\angle \mathrm{TUV}: 90^{\circ}$
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Measurement of $\angle \mathrm{JKL}: \underline{148}^{\circ}$


Measurement of $\angle \mathrm{HIJ}: 70^{\circ}$


Measurement of $\angle \mathrm{EFG}: \mathbf{1 7 1}^{\circ}$ Angle Sum Cards, Set 1

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



Measurement of $\angle \mathrm{ABD}: \mathbf{2 8}^{\circ}$


Measurement of $\angle \mathrm{IGH}: 33^{\circ}$


Measurement of $\angle \mathrm{JKM}: \underline{45^{\circ}}$ Grade 4 • Unit 7 • Lesson 12 © Reagan Tunstall

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



Measurement of $\angle \mathrm{HIK}: \underline{47^{\circ}}$


Measurement of $\angle \mathrm{IGH}: \underline{49^{\circ}}$
 Measurement of $\angle \mathrm{JKM}: \underline{27^{\circ}}$ Grade 4 • Unit 7 • Lesson 12 © Reagan Tunstall
$\angle A B C$ has a measure of $116^{\circ}$. If $\angle A B D$ has a measure of $47^{\circ}$, what is the measure of angle $\angle D B C$ ?

A. $53^{\circ}$
B. $55^{\circ}$
C. $59^{\circ}$
D. $69^{\circ}$

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

A. $62^{\circ}$
B. $72^{\circ}$
C. $36^{\circ}$
D. $56^{\circ}$
$\angle R S T$ is divided into two smaller angles by a ray. Both angles are acute. Which of the following could be a measure of $\angle \mathrm{RST}$ ?
A. $185^{\circ}$
B. $180^{\circ}$
C. $178^{\circ}$
D. $190^{\circ}$
$\angle \mathrm{JKM}$ has a measure of $75^{\circ}$. If $\angle \mathrm{MKL}$ has a measure of $82^{\circ}$, what is the measure of angle $\angle J K L$ ?

A. $147^{\circ}$
B. $153^{\circ}$
C. $157^{\circ}$
D. $163^{\circ}$

Ryan drew the angle $\angle \mathrm{LMN}$ on his paper. He then drew a ray that divided the angle into two equal halves. If $\angle \mathrm{LMN}$ measures $114^{\circ}$, what is the measure of each of the two smaller angles?
A. $57^{\circ}$
B. $47^{\circ}$
C. $53^{\circ}$
D. $43^{\circ}$

Aubrey drew six identical angles that all share the same vertex. If the sum of all the angles is $324^{\circ}$, what is the measure of each angle?
A. $75^{\circ}$
B. $64^{\circ}$
$54^{\circ}$
D. $45^{\circ}$

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


Triangle: $\frac{\text { equilateral, }}{\text { acute }}$


Triangle: scalene, right
$\qquad$


Triangle: scalene, right
$\qquad$
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Classifying Triangles Cards, Set 1

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


## Triangle: $\frac{\text { isosceles, }}{\text { acute }}$



Triangle: $\frac{\text { scalene, }}{\text { acute }}$


Triangle: scalene, right

[^0]Classifying Triangles Cards, Set 1


I have two sets of parallel sides. The sides that are parallel are equal in length.

All my sides are equal in length and I have four right angles.

I have four right angles and my opposite sides are equal in length.

Shape: square
Shape: $\qquad$
Shape: rhombus
Shape: rectangle

I have sides that are all equal in length, but no right angles.

Shape: $\qquad$ rhombus

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I have only one set of parallel sides. Shape: $\qquad$
Quadrilateral Riddles Card

[^1]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.


yes

yes
no

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

\# of lines of symmetry: $\underline{2}$

\# of lines of symmetry: 0

\# of lines of symmetry: $\underline{2}$

\# of lines of symmetry: $\quad 2$

\# of lines of symmetry: 4

\# of lines of symmetry: 1

## 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. 



$$
\angle D B C=\quad 80^{\circ}
$$

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

 iobtuse angel, $120^{\circ}$

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


$$
\angle A B C=\quad 72^{\circ}
$$

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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

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# Measure the angle below using the protractor. 



## $100^{\circ}$

# 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. $35^{\circ}$

## B. $45^{\circ}$

C. $55^{\circ}$
D. $65^{\circ}$

Robin drew two acute angles that had a total measurement of $84^{\circ}$. If one of the angles measures $45^{\circ}$, what is the measure of the other angle?

$$
39^{\circ}
$$


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[^1]:    © Reagan Tunstall

