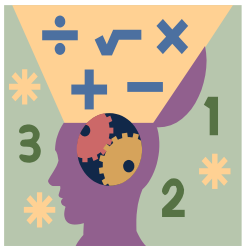
Name:_____ Section: _____



Homework

Greetings, Scholar and Parents! This week, we start **Chapter 14 – Classification Geometry**. Here students begin to understand the rules behind the grouping and classification of shapes and figures in geometry. We start with polygons, specifically quadrilaterals and triangles, then onto polyhedra (prisms and pyramids).

Extra Practice

Additional practice for the daily lessons is available on IXL. To access extra practice, please have your child login into IXL and see **"From Your Teacher"** section. These are recommended for reinforcement.

- Scalene, isosceles, and equilateral triangles
- Acute, obtuse, and right triangles
- Parallel sides in quadrilaterals
- Classify triangles
- Identify the relationships between quadrilaterals
- Identify three-dimensional figures

Notes

This homework assignment is due on Sunday, February 1st. Students must prove and show all their work in the provide space. Scholars should use a separate sheet of paper if they need additional space. Failure to show work or packets submitted after the due date will result in a lower grade. If a scholar struggles with a lesson, they can review the daily lesson on HMH. Please feel free to contact me with any questions or concerns at peter.vanegas@archimedean.org.

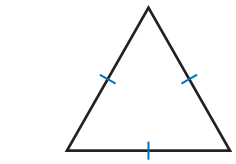
Monday	January 26th	14.1
Tuesday	January 27th	**QUIZ – VOLUME**
Wednesday	January 28th	14.2 & 14.3
Thursday	January 29th	**DIAGNOSTIC HMH**
Friday	January 30th	14.4

Name _____

Identify and Classify Two-Dimensional Figures

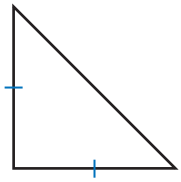
Florida's B.E.S.T.

- **Geometric Reasoning** 5.GR.1.1
- **Mathematical Thinking & Reasoning** MTR.1.1, MTR.5.1, MTR.7.1



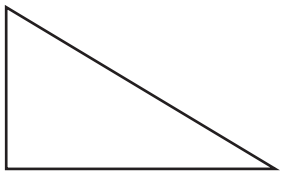
Equilateral triangle

3 sides of equal length



Isosceles triangle

2 sides of equal length

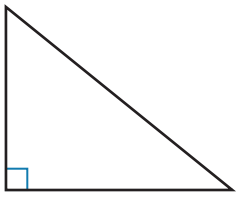


Scalene triangle

3 different side lengths

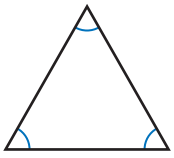
Another Way

You can also classify a triangle by its angles.



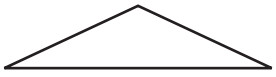
Right triangle

1 right angle



Acute triangle

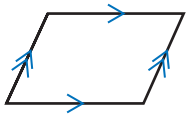
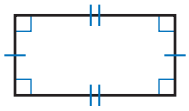
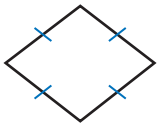
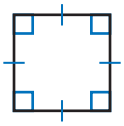
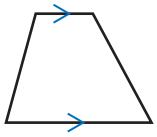
3 acute angles



Obtuse triangle

1 obtuse angle

© Houghton Mifflin Harcourt Publishing Company• Image Credits: (tr) ©Luke Durda/Alamy

Quadrilateral	Attributes	Example
Parallelogram	Two pairs of parallel sides and opposite sides of the same length	
Rectangle	2 pairs of parallel sides, 4 right angles, and opposite sides of the same length	
Rhombus	Two pairs of parallel sides and 4 of the same length	
Square	2 pairs of parallel sides, 4 right angles, and 4 of the same length	
Trapezoid	At least 1 pair of parallel sides.	

Remember

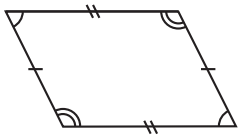
The slashes indicate equal side lengths. The sides with the same number of slashes are the same length. The > indicate parallel sides.

Name _____

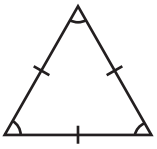
Identify and Classify Two-Dimensional Figures

Go Online
Interactive Examples

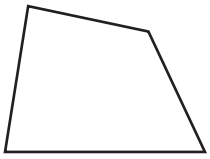
List all possible names for the polygon.

1. 

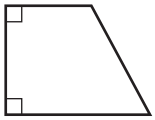
_____

2. 

_____

3. 

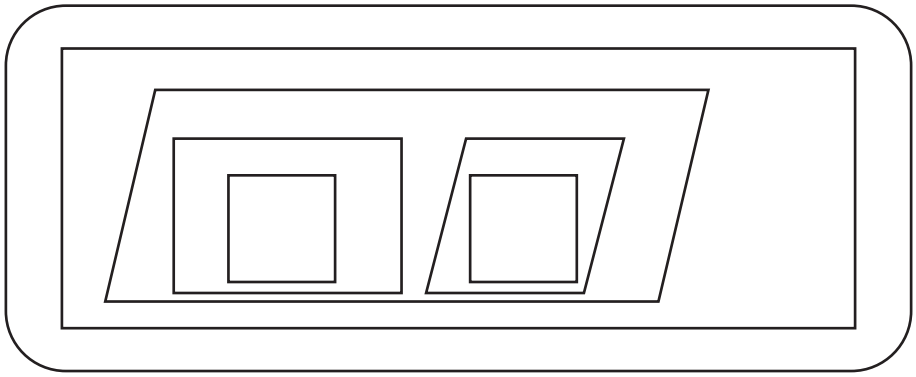
_____

4. 

_____

Problem Solving Real World

5. Complete the diagram. Use *quadrilaterals, rhombuses, parallelograms, squares, polygons* and *rectangles*. You will use one quadrilateral more than once.



6. Which quadrilateral did you use more than once in Problem 5? Why?

_____

7. Sketch four points. Then, connect the points to form a closed plane figure. What kind of polygon did you draw?

_____

8. Sketch three points. Then, connect the points to form a closed plane figure. What kind of polygon did you draw?

_____

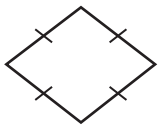
9. WRITE Math Use grid paper to draw one regular quadrilateral and one quadrilateral that is not regular. Explain the difference.

_____

© Houghton Mifflin Harcourt Publishing Company

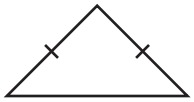
Lesson Check

10. List all possible names for the polygon.



_____

11. List all possible names for the polygon.



_____

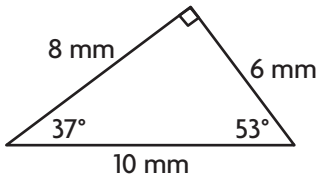
Name _____

Classify Triangles

Go Online
Interactive Examples

Classify the triangle. Write *isosceles*, *scalene*, or *equilateral*. Then write *acute*, *obtuse*, or *right*.

1.



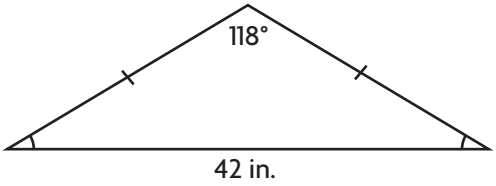
None of the side measures are equal. So, it is

_____. There is a right

angle, so it is a _____ triangle.

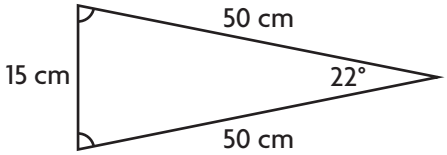
_____ _____

2.



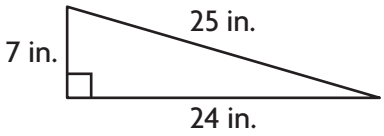
_____ _____

3.



_____ _____

4.



_____ _____

A triangle has sides with the lengths and angle measures given. Classify the triangle. Write *scalene*, *isosceles*, or *equilateral*. Then write *acute*, *obtuse*, or *right*.

5. **sides:** 44 mm, 28 mm, 24 mm
angles: 110°, 40°, 30°

_____ _____

6. **sides:** 23 mm, 20 mm, 13 mm
angles: 62°, 72°, 46°

_____ _____

Problem Solving Real World

7. Arielle says the pen for her horse is an acute right triangle. Is this possible? Explain.

_____

8. Hanan says every equilateral triangle is acute. Is this true? Explain.

_____

9. WRITE Math Draw three triangles: one equilateral, one isosceles, and one scalene. Label each and explain how you classified each triangle.

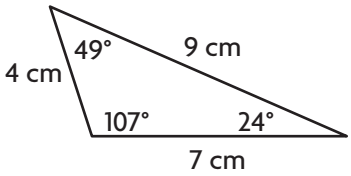
_____

© Houghton Mifflin Harcourt Publishing Company

Lesson Check

10. If two of a triangle's angles measure 42° and 48°, how would you classify that triangle? Write *acute, obtuse,* or *right*.

11. What is the classification of the following triangle? Write *scalene, isosceles,* or *right*.



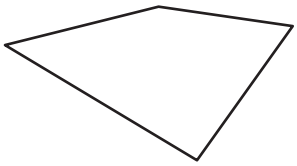
Name _____

Classify Quadrilaterals

Go Online
Interactive Examples

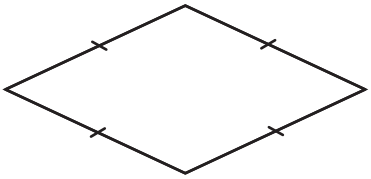
Classify the quadrilateral in as many ways as possible.
Write *quadrilateral, trapezoid, parallelogram, rectangle, rhombus,* or *square.*

1.



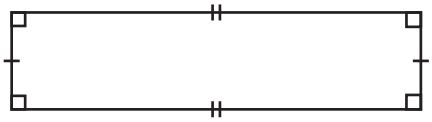
It has 4 sides, so it is a _____.
None of the sides are parallel, so there is _____.

2.



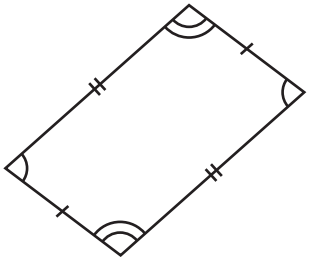
_____

3.



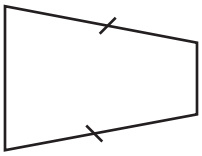
_____

4.



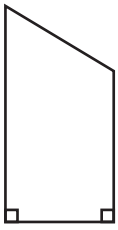
_____

5.



_____

6.



_____

Problem Solving Real World

7. Kevin claims he can draw a trapezoid with three right angles. Is this possible? Explain.

_____

_____

_____

8. "If a figure is a square, then it is a regular quadrilateral." Is this true or false? Explain.

_____

_____

_____

9. WRITE Math All rectangles are parallelograms. Are all parallelograms rectangles? Explain.

_____

© Houghton Mifflin Harcourt Publishing Company

Lesson Check

10. Complete the following statement. Write *sometimes, always,* or *never*.

A trapezoid _____ has exactly one pair of parallel sides.

11. Complete the following statement. Write *sometimes, always,* or *never*.

A rhombus _____ has four angles with the same measure.

Name _____

Identify and Classify Three-Dimensional Figures

Florida's B.E.S.T.
- **Geometric Reasoning** 5.GR.1.2
- **Mathematical Thinking & Reasoning** MTR.1.1, MTR.2.1, MTR.3.1, MTR.5.1

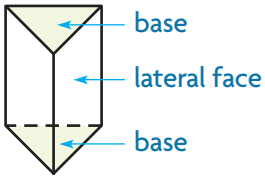
I Can identify, describe, and classify three-dimensional figures.

UNLOCK the Problem

A solid figure has three dimensions: length, width, and height. **Polyhedrons**, such as prisms and pyramids, are three-dimensional figures with faces that are polygons.

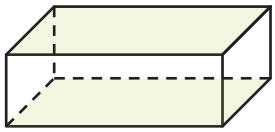
A **prism** is a polyhedron that has two same-size and same-shape polygons as **bases**.

A polyhedron's **lateral faces** are polygons that connect with the bases. The lateral faces of a prism are rectangles.



A prism's base shape is used to name the solid figure. The base shape of this prism is a triangle. The prism is a **triangular prism.**

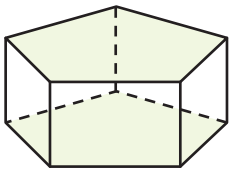
Identify the base shape of the prism. Use the terms in the box to correctly name the prism by its base shape.



Base shape: _____

Name the solid figure.

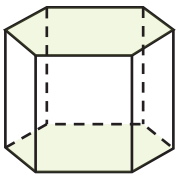
_____



Base shape: _____

Name the solid figure.

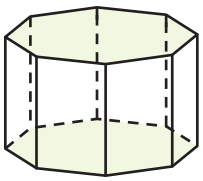
_____



Base shape: _____

Name the solid figure.

_____



Base shape: _____

Name the solid figure.

_____

Math Idea

A two-dimensional figure has the dimensions length and width, which are used to find the figure's area.

A three-dimensional figure, or solid, has three dimensions: length, width, and height. These dimensions are used to find the figure's volume, or the space it occupies.

Types of Prisms
- decagonal prism
- octagonal prism
- hexagonal prism
- pentagonal prism
- rectangular prism
- triangular prism

Math Talk

MTR 5.1 Use patterns and structure.

What shapes make up a decagonal prism, and how many are there? Explain.

- **MTR** What special prism has same-size squares for bases and lateral faces? _____

© Houghton Mifflin Harcourt Publishing Company

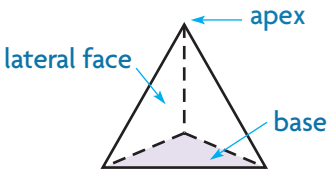
Pyramid

A **pyramid** is a polyhedron with only one base. The lateral faces of a pyramid are triangles that meet at a common vertex called an **apex.**

Like a prism, a pyramid is named for the shape of its base.

Identify the base shape of the pyramid. Use the terms in the box to correctly name the pyramid by its base shape.

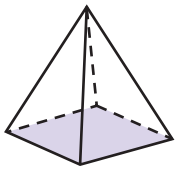
Types of Pyramids
pentagonal pyramid
rectangular pyramid
square pyramid
triangular pyramid



Base shape: _____

Name the solid figure.

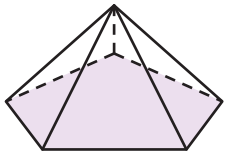
_____



Base shape: _____

Name the solid figure.

_____



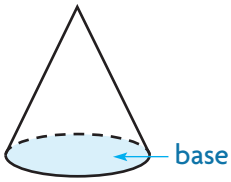
Base shape: _____

Name the solid figure.

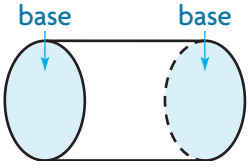
_____

Non-polyhedrons

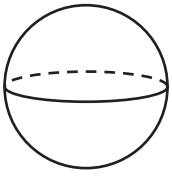
Some three-dimensional figures have curved surfaces. These solid figures are *not* polyhedrons.



A **cone** has 1 circular base and 1 curved surface.



A **cylinder** has 2 same-size circular bases and 1 curved surface.



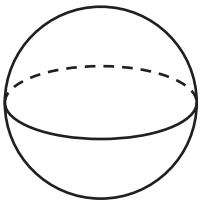
A **sphere** has no bases and 1 curved surface.

Name _____

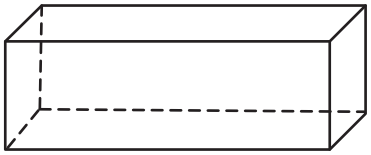
Identify and Classify Three-Dimensional Figures

Go Online
Interactive Examples

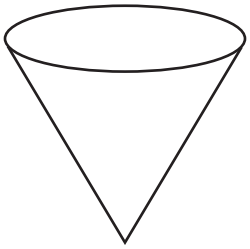
Classify the solid figure. Write *prism, pyramid, cone, cylinder,* or *sphere.*

1. 

There are no bases. There is 1 curved surface. It is a _____.

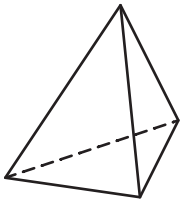
2. 

_____

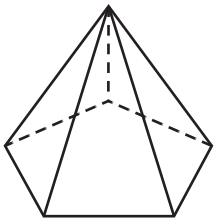
3. 

_____

Name the solid figure.

4. 

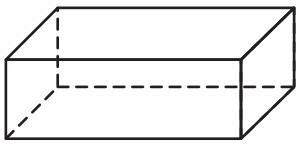
_____

5. 

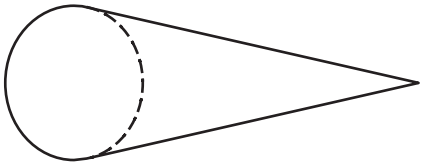
_____

6. 

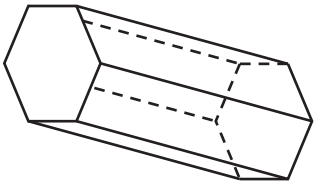
_____

7. 

_____

8. 

_____

9. 

_____

Problem Solving Real World

10. Nanako said she drew a square pyramid and that all of the faces are triangles. Is this possible? Explain.

_____

11. WRITE Math Explain why a three-dimensional figure with a curved surface is not a polyhedron.

_____

© Houghton Mifflin Harcourt Publishing Company

Lesson Check

12. Esteban made a model of a solid figure with 1 circular base and 1 curved surface. What solid figure did he make?

13. How many rectangular faces does a hexagonal pyramid have?