

33. Defining Geometry by David White

¹Geometry is a branch of mathematics that focuses on shapes. ²A large part of geometry is the study of the lines, points, and angles used to form these shapes. ³A line is a set of points that extend forever in two directions. ⁴A line segment can be thought of as a part of a line joining two end points. ⁵If two lines join at one point, they form an angle. ⁶An angle is two rays* that extend from the same point. ⁷Two rays that intersect at a right angle (90-degree) are called **perpendicular**.

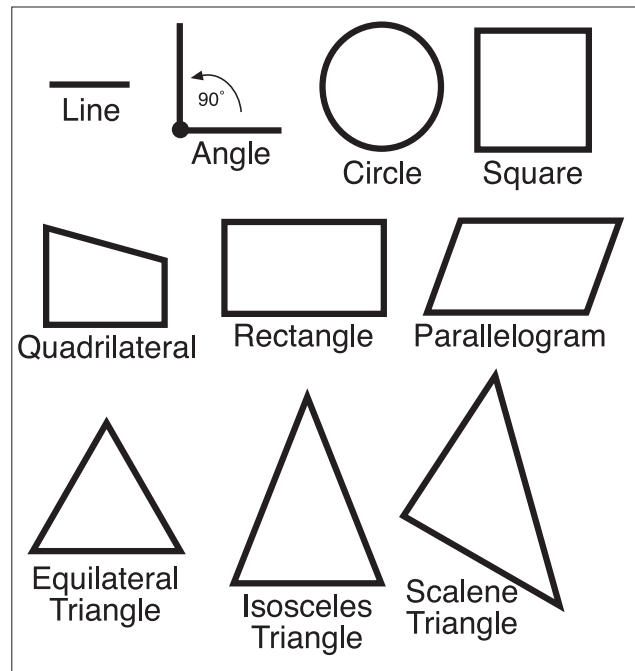
⁸Lines can be joined to form geometric figures. ⁹A three-sided figure is a **triangle**. ¹⁰There are several different types of triangles, which vary according to the length and angles of the lines that form them. ¹¹Here are some definitions.

¹²**Equilateral triangle:** a triangle with three equal sides

¹³**Isosceles triangle:** a triangle with two equal sides

¹⁴**Scalene triangle:** a triangle with no equal sides

¹⁵A four-sided figure is called a **quadrilateral**, which is four points joined by four lines to produce four sides. ¹⁶The following are definitions of specific types of quadrilaterals:



¹⁷**Parallelogram:** a quadrilateral that has opposite sides that are parallel and equal in length

¹⁸**Rectangle:** a parallelogram that has four right angles

¹⁹**Square:** a rectangle that has four equal sides

²⁰The last basic geometric figure to define is the **circle**, a perfectly round enclosed shape made by a curved line.

²¹All points on the line are the same distance (equidistant) from a fixed point in the center of the circle.

*ray: a half line that extends forever in one direction from a point

DIRECTIONS: Choose or write the best answer to each of the following questions using the evidence presented in the passage. When required, list specific sentence numbers or paragraph letters from the story to support your answer.

1. According to the diagram, which of the following figures has the most right angles?
 - A. circle
 - B. square
 - C. parallelogram
 - D. scalene triangle

2. Using the diagram, choose the figure listed below that does NOT contain perpendicular lines.
 - A. angle
 - B. square
 - C. rectangle
 - D. parallelogram

3. Choose the statement that is accurate.
 - A. All circles have sides.
 - B. All squares are rectangles.
 - C. All triangles are equilateral.
 - D. All quadrilaterals have right angles.

Give the number of the sentence that best supports your answer. _____

4. How does an equilateral triangle differ from a scalene triangle?

5. “A rhombus has four equal sides but no right angles.” In which section of the passage would this sentence best fit?
 - A. sentences 1–6
 - B. sentences 7–11
 - C. sentences 12–15
 - D. sentences 16–21

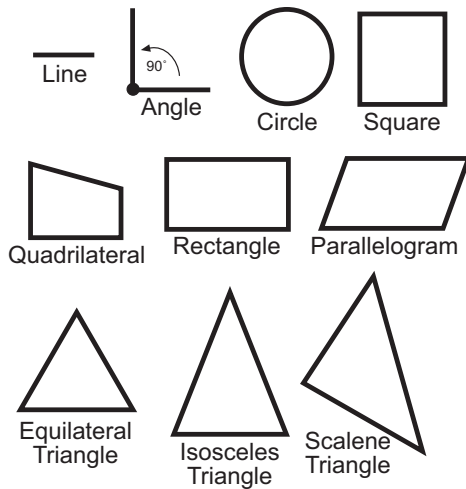
6. Which of these best describes the purpose of the passage?
 - A. to show similar things
 - B. to match pictures to words
 - C. to define triangles and circles
 - D. to describe geometric shapes

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1. According to the diagram, which of the following figures has the most right angles? (diagram use)
 - A. circle
 - B. square**
 - C. parallelogram
 - D. scalene triangle

2. Using the diagram, choose the figure listed below that does NOT contain perpendicular lines. (diagram use)
 - A. angle
 - B. square
 - C. rectangle
 - D. parallelogram**

3. Choose the statement that is accurate. (supporting detail)
 - A. All circles have sides.
 - B. All squares are rectangles.**
 - C. All triangles are equilateral.
 - D. All quadrilaterals have right angles.



1 best evidence sentence: **19**

4. How does an equilateral triangle differ from a scalene triangle? (compare/contrast, reading for detail)

An equilateral triangle has three equal sides while a scalene triangle has no equal sides.

5. “A rhombus has four equal sides but no right angles.” In which section of the passage would this sentence best fit? (application)
 - A. sentences 1–6
 - B. sentences 7–11
 - C. sentences 12–15
 - D. sentences 16–21**

Sentences 16–21 describe four-sided figures, of which a rhombus is one.

6. Which of these best describes the purpose of the passage? (author purpose)
 - A. to show similar things
 - B. to match pictures to words**