Geometry Name: _____

Guided Notes – Introduction to Geometry Date: _____

What do you remember about Geometry?

_____ 1. What is the measure of a right angle?

_____ 2. How many lines of symmetry does a square have?

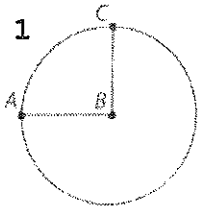
_____ 3. What geometric figure has an infinite number of lines of symmetry?

Let's define some of the important geometry terms...

A **circle** is the set of _____ on a plane at a certain distance, or _____, from a single point, the _____. **Notation:** _____

Which figure accurately represents a circle? Why?

1



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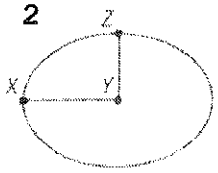


A **line** is an infinite set of points that extend in both directions.

Notation: _____

A **line segment** is a part of a _____ bounded by two distinct _____.

Notation: _____

Which figure accurately represents a line? Why?

1

Which figure accurately represents a line segment? Why?

2

A **point** is an exact _____ or _____ in a given plane. **Notation:** _____

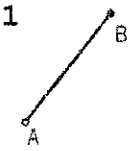
What does C represent in the figure?

A **ray** is a portion of a _____ that starts at a _____ and continues to _____.

Notation: _____

Which figure accurately represents a ray? Why?

1



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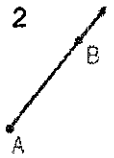
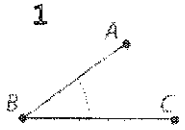


An **angle** is formed where two _____ or _____ share an _____, or where a line intersects with another line, ray or line segment.

Which figure accurately represents an angle? Why?

1



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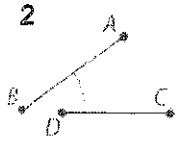


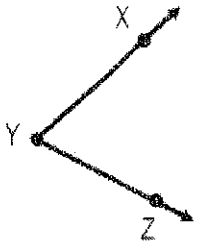
Notation: An angle is named using _____ letter or _____ letters.

Give three possible names for the angle to the right. _____ OR _____ OR _____

Remember: Acute angles measure _____ 90°.

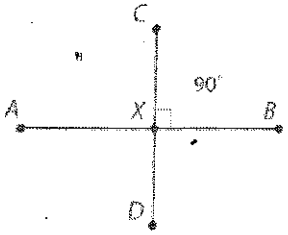
Obtuse angles measure _____ 90°.

Right angles measure _____ 90°.



Perpendicular lines create four _____ angles. **Notation:** _____

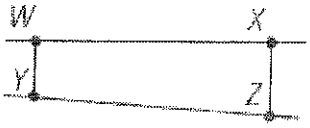
What are the measures of ∠AXC, ∠DXA, and ∠BXD if AB ⊥ CD?



Parallel lines are two lines that have unique points and _____ cross. **Notation:** _____

Which figure accurately represents parallel lines? Why?

1



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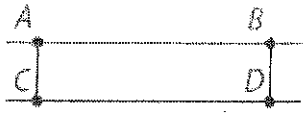
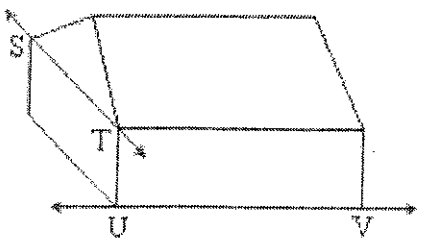


Skew lines are lines that do not _____ and that are not _____.

An example of skew lines are on the right.
Lines $\overleftrightarrow{ST}$ and $\overleftrightarrow{UV}$ are skew lines.

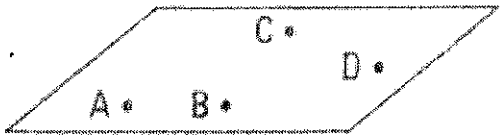


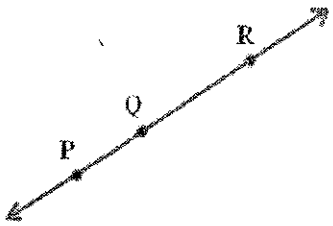
Collinear points are three or more points that lie on the same _____.

Coplanar points are three or more points that lie in the same _____.

Which points are collinear?

Which points are coplanar?

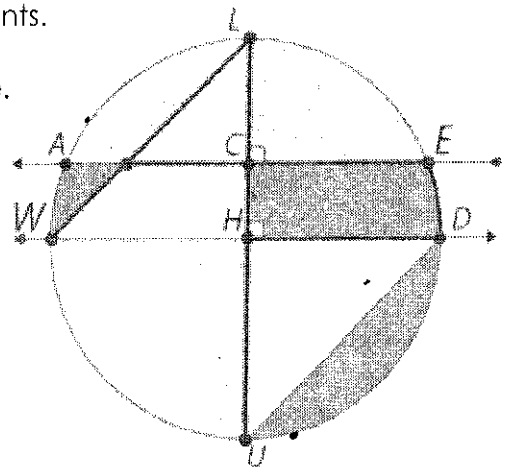




Practice

Math Teachers Unite contracted Josh's Icons to design a logo for their group. They requested the logo be circular and contain the following elements: a line, a ray, a line segment, two pairs of parallel line segments and one pair of perpendicular line segments.

Here is what Josh's Icons proposed back to Math Teachers Unite. Did Josh's Icons meet their requirements? How do you know?



Line: _____

Ray: _____

Line Segment: _____

One pair of perpendicular line segments: _____

Two pairs of parallel line segments: _____ and _____

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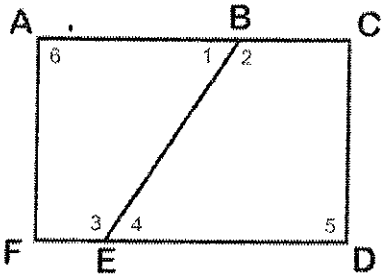
Fill in the blanks with the appropriate definition *and* notation.

	definition	notation
1. Parallel Lines	_____	_____
2. Line Segment	_____	_____
3. Circle	_____	_____
4. Point	_____	_____
5. Perpendicular Lines	_____	_____
6. Ray	_____	_____
7. Angle	_____	_____

A. part of a line bounded by two distinct endpoints
B. formed where two lines or rays share an endpoint
C. a portion of a line that starts at a point and continues to infinity
D. two lines that have unique points and never cross
E. the set of points on a plane at a certain distance, or radius from a single point, the center
F. creates four right angles
G. an exact position or location in a given plane

1. $AB \parallel CD$ 2. $AB \perp CD$
3. $\odot B$ 4. $\overline{AB}$
5. $\overrightarrow{AB}$ 6. $\angle ABC$
7. A

Name the following angles with the correct notation.



8. $\angle 1$_____ 9. $\angle 2$ _____ 10. $\angle 3$ _____

11. $\angle 4$_____ 12. $\angle 5$ _____ 13. $\angle 6$ _____

14. Johnny wants to draw a perfect circle on canvas, but his compass is broken. He decides to take a shoelace from one of his sneakers and a pushpin from his drawing desk. He ties the shoelace around a pencil and then pins the other end of the shoelace into the center of the canvas. Johnny then stretches the shoelace out until it's pulled tight, and places the pencil point on the canvas. Keeping the shoelace straight, he moves the pencil around the canvas and begins to draw out a circle.

Will Johnny's approach to drawing a perfect circle work? Why or why not?