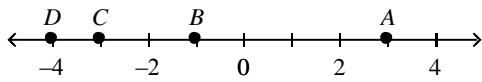


Geometry Cumulative Study Guide

Test 1

Numeric Response

1. Find the distance AC on the number line below.

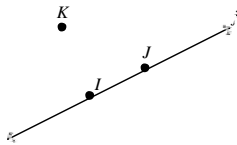


2. Point Y lies on \overleftrightarrow{XZ} between X and Z . $XY = 2$ and $XZ = 15$. Find YZ .

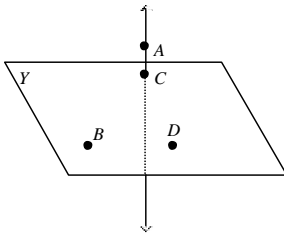
3. Karen is sledding down a hill from the top to the bottom. The distance from the top of the hill to the bottom is 170 yards. How far, in yards, will she have to slide before she reaches the midpoint of the hill?

Problem

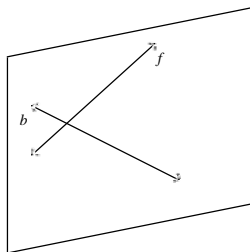
4. Give two different names for the line shown in the diagram below.



5. What are two different names for the plane shown in the diagram below?



6. Identify the coplanar and noncoplanar lines in the diagram below.

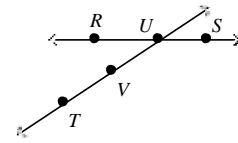


Name: _____

Date: _____

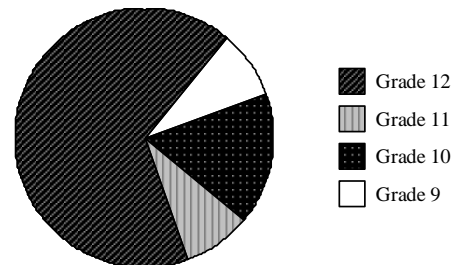
Period: _____

7. What is the intersection of \overleftrightarrow{RS} and \overleftrightarrow{TV} ?

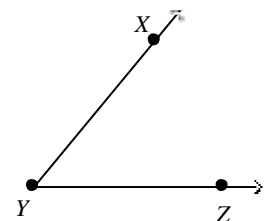


8. Identify the property that justifies the following statement. If $\overline{AB} \cong \overline{CD}$, then $\overline{CD} \cong \overline{AB}$.

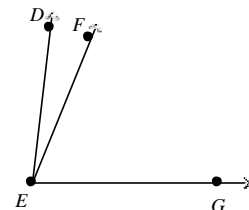
9. The high school ski club has 36 members. The circle graph below shows what percentage of the members fall into given grade brackets. Use a protractor to measure the angle of the wedge that represents the Grade 9 bracket. How many members of the ski club are in Grade 9?



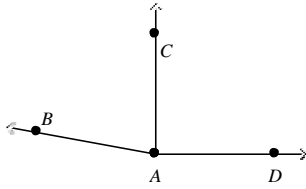
10. Classify $\angle XYZ$ and use a protractor to find its measure.



11. $m\angle DEF = 15^\circ$ and $m\angle FEG = 68^\circ$. Find $m\angle DEG$. Classify $\angle DEG$.

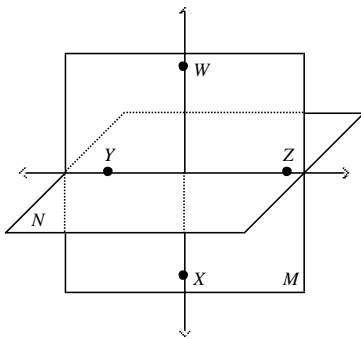


12. Name three angles in the diagram below.



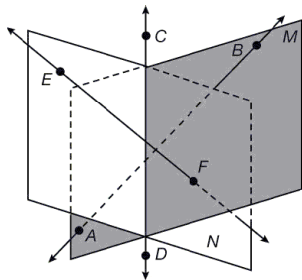
13. Points A and B lie on plane M . Does line \overleftrightarrow{AB} lie in plane M ? Justify your answer using a postulate.

14. Name four points, two lines, and two planes in the diagram below.

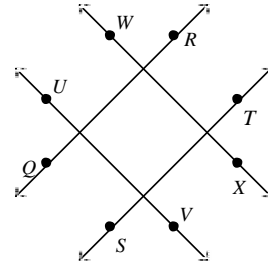


15. When taking pictures, photographers often place their cameras on three-legged tripods so the camera will not wobble. Explain why a three-legged tripod would not wobble and use postulates to explain why this is true.

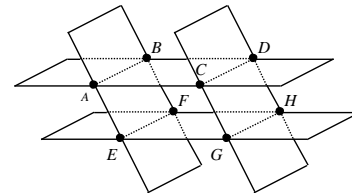
16. Identify the intersection of planes M and N in the diagram below.



17. In the figure below, $\overleftrightarrow{WX} \parallel \overleftrightarrow{UV}$, $\overleftrightarrow{QR} \perp \overleftrightarrow{WX}$, and $\overleftrightarrow{ST} \perp \overleftrightarrow{WX}$. What is the relationship between \overleftrightarrow{QR} and \overleftrightarrow{ST} ?



18. In the figure below, $\overleftrightarrow{AB} \parallel \overleftrightarrow{EF}$ and $\overleftrightarrow{EF} \parallel \overleftrightarrow{GH}$. What is the relationship between \overleftrightarrow{AB} and \overleftrightarrow{GH} ?



19. Draw as many lines as possible that are parallel to \overleftrightarrow{XY} , through a point Z that is not on \overleftrightarrow{XY} .

20. Cesar is painting a design on his wall. He has painted three lines labeled A , B , and C . Cesar knows that line C is parallel to the floor. He wants lines A and B to be parallel to the floor as well. He measures the distance between line B and line C and finds that they are parallel. Then he measures the distance between line A and line B and verifies that they too are parallel. Are Cesar's measurements sufficient to show that lines A and B are parallel to the ground?

Geometry Cumulative Study Guide Test 1 Answer Section

NUMERIC RESPONSE

1. ANS: 6

PTS: 1 REF: Lesson 2: Segments NAT: NCTM NO.3a
TOP: Cumulative Test 1 MSC: Geom_S01_00055

2. ANS: 13

PTS: 1 REF: Lesson 2: Segments NAT: NCTM NO.3a
TOP: Cumulative Test 1 MSC: Geom_S01_00056

3. ANS: 85

PTS: 1 REF: Lesson 2: Segments NAT: NCTM NO.3a
TOP: Cumulative Test 1 MSC: Geom_S01_00057

PROBLEM

4. ANS:
line j , \overleftrightarrow{IJ} or \overleftrightarrow{JI}

PTS: 1 REF: Lesson 1: Points, Lines, and Planes NAT: NCTM CM.1d
TOP: Cumulative Test 1 MSC: Geom_S01_00077

5. ANS:

Sample: plane BCD or plane Y

PTS: 1 REF: Lesson 1: Points, Lines, and Planes NAT: NCTM CM.1d
TOP: Cumulative Test 1 MSC: Geom_S01_00078

6. ANS:

Lines b and f are coplanar; there are no noncoplanar lines.

PTS: 1 REF: Lesson 1: Points, Lines, and Planes NAT: NCTM G.1a
TOP: Cumulative Test 1 MSC: Geom_S01_00079

7. ANS:

Point U

PTS: 1 REF: Lesson 1: Points, Lines, and Planes NAT: NCTM R.1a
TOP: Cumulative Test 1 MSC: Geom_S01_00080

8. ANS:

Symmetric Property of Congruence

PTS: 1 REF: Lesson 2: Segments NAT: NCTM CM.1d
TOP: Cumulative Test 1 MSC: Geom_S01_00085

9. ANS:

The wedge has a measure of 30° ; 3 members are in Grade 9.

PTS: 1 REF: Lesson 3: Angles NAT: NCTM G.1a
 TOP: Cumulative Test 1 MSC: Geom_S01_00088
 10. ANS:
 acute; 50°

PTS: 1 REF: Lesson 3: Angles NAT: NCTM G.1a
 TOP: Cumulative Test 1 MSC: Geom_S01_00089
 11. ANS:
 $m\angle DEG = 83^\circ$; acute

PTS: 1 REF: Lesson 3: Angles NAT: NCTM G.1d
 TOP: Cumulative Test 1 MSC: Geom_S01_00090
 12. ANS:
 $\angle BAC$, $\angle CAD$, and $\angle BAD$

PTS: 1 REF: Lesson 3: Angles NAT: NCTM R.1a
 TOP: Cumulative Test 1 MSC: Geom_S01_00091
 13. ANS:

Postulate 8 says that if two points lie on a plane, then the line containing the points lies in the plane. Therefore, since points A and B lie on plane M , then line \overleftrightarrow{AB} lies on plane M .

PTS: 1 REF: Lesson 4: Postulates and Theorems About Points, Lines, and Planes
 NAT: NCTM RP.1d TOP: Cumulative Test 1
 MSC: Geom_S01_00100
 14. ANS:

Points W , X , Y , and Z ; Lines \overleftrightarrow{WX} and \overleftrightarrow{YZ} ; Planes M and N

PTS: 1 REF: Lesson 4: Postulates and Theorems About Points, Lines, and Planes
 NAT: NCTM G.1a TOP: Cumulative Test 1 MSC: Geom_S01_00101
 15. ANS:

Postulate 6 says that through any three noncollinear points there exists exactly one plane. Since the legs of a three-legged tripod are noncollinear points, they make a single plane. Even if they are uneven, the tripod will be stable and will not wobble.

PTS: 1 REF: Lesson 4: Postulates and Theorems About Points, Lines, and Planes
 NAT: NCTM G.1c TOP: Cumulative Test 1 MSC: Geom_S01_00102
 16. ANS:

The intersection is \overleftrightarrow{CD} .

PTS: 1 REF: Lesson 4: Postulates and Theorems About Points, Lines, and Planes
 NAT: NCTM R.1a TOP: Cumulative Test 1 MSC: Geom_S01_00103
 17. ANS:

$\overleftrightarrow{QR} \parallel \overleftrightarrow{ST}$

PTS: 1 REF: Lesson 5: More Theorems About Lines and Planes
 NAT: NCTM G.1b TOP: Cumulative Test 1 MSC: Geom_S01_00107
 18. ANS:

$$\overleftrightarrow{AB} \parallel \overleftrightarrow{GH}$$

PTS: 1

REF: Lesson 5: More Theorems About Lines and Planes

NAT: NCTM G.1b

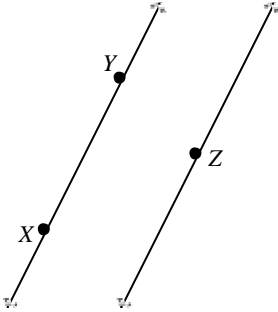
TOP: Cumulative Test 1

MSC: Geom_S01_00108

19.

ANS:

Sample:



The Parallel Postulate indicates that there is only one line that can be drawn through a point not on \overleftrightarrow{XY} that is parallel to \overleftrightarrow{XY} .

PTS: 1

REF: Lesson 5: More Theorems About Lines and Planes

NAT: NCTM R.1a

TOP: Cumulative Test 1

MSC: Geom_S01_00109

20.

ANS:

Sample: Yes, Cesar has applied the Transitive Property of Parallel Lines. He knows that if line C is parallel to the floor and line B is parallel to line C , then line B must be parallel to the floor as well. For line A , since it is parallel to line B , and line B is parallel to the floor, then line A must also be parallel to the floor.

PTS: 1

REF: Lesson 5: More Theorems About Lines and Planes

NAT: NCTM R.1b

TOP: Cumulative Test 1

MSC: Geom_S01_00110