Geometry
Unit 1 Geometry Essentials
Unit 1 Review

Mathematician: _____
Period:_____

Target 1: Demonstrate knowledge of core definitions include: point, line, segment, ray, plane, angle, etc.

Directions: Select ALL that apply in questions #1-3.

1) Which of the following has an infinite set of points?

(a) $\overline{AB}$
(b) $\overleftrightarrow{HG}$
(c) $\angle L$
(d) $\overrightarrow{TU}$

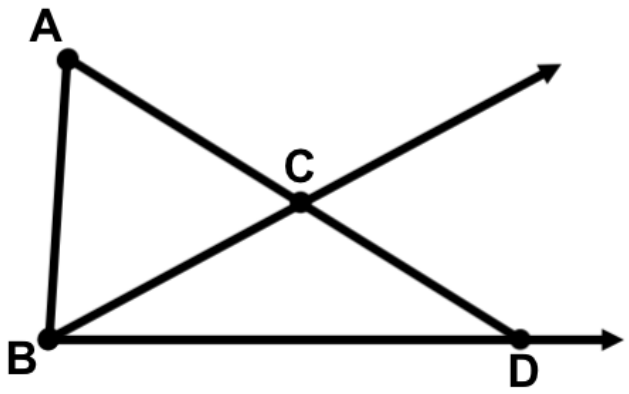
2) Which of the following occupies no space or volume?

(a) $\overrightarrow{PQ}$
(b) $\overline{BC}$
(c) $\angle PAC$
(d) P

3) Which of the following do two rays with the same endpoint form?

(a) $\overleftrightarrow{MN}$
(b) $\angle T$
(c) $\overline{QZ}$
(d) $\overrightarrow{BD}$

Directions: Use the diagram to answer the following questions #9-14. Select all that apply!



4) What could BC be?

a) a point b) a line c) a ray d) a line segment

5) True or False: BC is an example of a line.

6) Which ones listed are an example of an angle?

a) ∠AB b) $\angle D$ c) $\angle BCA$ d) $\angle DA$ e) All of the above

7) Which one listed could be an example of a ray?

a) DA b) BC c) CD d) BD e) D

8) What is A?

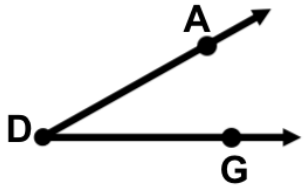
a) a point b) a line c) a ray d) an angle

9) What is $\overrightarrow{BC}$?

a) a point b) a line c) a ray d) an angle

Directions: Identify whether the given angle is acute, obtuse, right or straight. Then name the angle and give an example of an angle measure.

10)

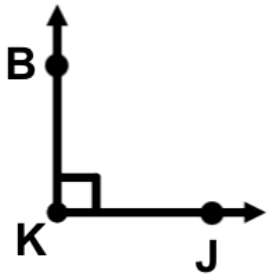


a) Acute
b) Obtuse
c) Right
d) Straight

Name: _____

Possible angle measure = _____

11)



a) Acute
b) Obtuse
c) Right
d) Straight

Name: _____

Possible angle measure = _____

12) What type of angle is formed by the clock's hands when the time is 6 o'clock? (measure from the hour hand clockwise to the minute hand)

13) What type of angle is formed by the clock's hands when the time is 2 o'clock? (measure from the hour hand clockwise to the minute hand)

Target 2: Determine the length, midpoint, and ratios of segments

Directions: Find the length and the midpoint of the following line segments.

14) $(-2,7)$ and $(-8,4)$

Length: _____

Midpoint: _____

15) $(4,1)$ and $(-3,8)$

Length: _____

Midpoint: _____

16) $(0.3,-4.2)$ and $(-0.1,2.2)$

Length: _____

Midpoint: _____

Directions: L is the midpoint of the line segment KM. Find the coordinates of M. Then find the sum of those values.

17) K (-2,5) L (3,1)

x-coordinate of C: _____

y-coordinate of C: _____

Sum: _____

18) K (-10,-4) L (-3, 2)

x-coordinate of C: _____

y-coordinate of C: _____

Sum: _____

Directions: Points A, B, and C are collinear, in that order. Find the length of the missing segment.

19) Find AB if $AB = 2x - 7$, $BC = 6$, and $AC = x + 7$.

20) Find AC if $AB = x$, $AC = 2x - 6$, and $BC = 1$.

21) Find BC if $AC = 19$, $BC = 19 + x$, and $AB = x + 6$.

Target 2: Determine the length, midpoint, and ratios of segments

22) The point R that divides the line segment $\overline{SQ}$ into two parts with the ratio of 2:9 The length of $\overline{SQ}$ is 66.

$\overline{SR} =$ _____

23) The point G that divides the line segment $\overline{HF}$ into two parts with the ratio of 1:3 The length of $\overline{HF}$ is 32.

$\overline{HG} =$ _____

24) The point U divides the line segment $\overline{AT}$ into two parts with the ration of 10:3. The length of $\overline{VT}$ is 39.

$\overline{TU} =$ _____

Free Response: Constructions

Directions: Copy the given line segments or rays. Then name the copy of the construction.

25)

Draw

Name: _____

26)

Draw

Name: _____

27)

Draw

Name: _____

28)

Draw

Name: _____

Directions: Construct a line segment with a length equal to the sum of the lengths of the given line segments.

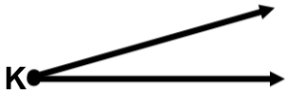
29) 

Draw

30) 

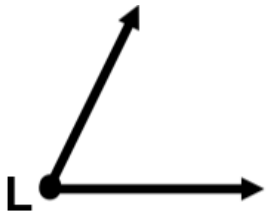
Draw

Directions: Copy the following angles. Then name the copy of the angle.

31) 

Draw

Name: _____

32) 

Draw

Name: _____

Unit 1 Review Answers

1. A, B, D
2. D
3. B
4. C or D
5. False
6. B, C
7. B, D
8. A
9. C
10. A, $\angle ADG$, answers may vary → anything between $0 - 90°$
11. C, $\angle BKJ$, 90°
12. Straight
13. Obtuse
14. Length: 6.71, Midpoint: $(-5,5.5)$
15. Length: 9.9, Midpoint: $(0.5, 4.5)$
16. Length: 6.4, Midpoint: $(0.1, -1)$
17. Point M (8,-3)
18. Point M (4,8)
19. $\overline{AB} = 9$
20. $\overline{AC} = 8$
21. $\overline{BC} = 16$
22. $\overline{SR} = 12$
23. $\overline{HG} = 8$
24. $\overline{TU} = 9$