

Geometry - Chapter 1 Quiz Review: 1.1 – 1.4 Content

Concepts Covered:

1.1

- Be able to identify (label), define, and sketch Lines, Rays, and Line Segments
- Understand and apply the definitions of Coplanar, Collinear, and Intersect.
- Determine if points are collinear, coplanar, or intersect given a picture.

1.2

- Understand and apply the definitions of Congruent and Distance to answer questions.
- Be able to plot ordered pairs on the coordinate plane and then determine the distance of the segment(s) created.
- Determine if two or more segments are congruent.

1.3

- Understand, be able to define, and use the definitions of the following terms: Midpoint, Segment Bisector.
- Use the midpoint formula to find the midpoint between two points.
Given (x_1, y_1) & (x_2, y_2) Midpoint: $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$
- Use the distance formula to find the distance between two points.
Given (x_1, y_1) & (x_2, y_2) Distance: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

1.4

- Understand, be able to define, and use the definitions of the following terms: Perimeter, Area, Polygon, Concave, Convex
- Find the area of a shape given coordinates for the vertices using smaller shapes like rectangles and triangles
- Read, comprehend and complete word problems where you must find areas or perimeters given a picture or coordinates of vertices of polygons.

1.1 Problems:

1. A Line MUST be: _____
2. A Ray starts at a _____ and continues in a _____ Line _____.
3. A Line Segment starts at a _____ and ends at a _____.
4. Sketch a Line through points P and Q.
5. Add a point B that is collinear to the line PQ.
6. Add a point A that is Not collinear to the line PQ.
7. Sketch the ray AB.
8. Add a point C that is collinear to the Ray AB.
9. Sketch the ray CP.
10. Define “collinear points”:
11. Define “coplanar points/lines”:

1.2 Problems:

12. Plot the points and determine if the segments AB and CD are congruent. A(-2, -1) B(2, 2) C(0, 2) D(4, -5)
13. Plot the points and determine if the segments AB and CD are congruent. A(-2, 4) B(0, -1) C(0, 2) D(1, -3)
- (12 and 13 use the distance formula, which is a 1.3 concept)
14. Determine the length of the segment PQ given P(-3, 0) Q(3, 3)

1.3 Problems:

15. Sketch a horizontal line segment RS.
16. Sketch a Line KL that bisects segment RS.
17. Label the intersection point of the bisection M.
18. The length of RM is $5x + 12$, and the length of MS is $x + 24$. Solve for X.
19. Find the midpoint of AB given A(3, 9) B(-1, 0)
20. Find the midpoint of FG given F(0, -5) G(-4, 5)

1.4 Problems:

21. Find the perimeter of the polygon created with vertices at (-1, -1), (3, -1), and (3, 4).
22. Find the area of the polygon from #21
23. Find the perimeter of the polygon created with vertices at (-3, 4), (1, 4), (1, -3), (-1, -3)
24. Find the area of the polygon from #23. (You could break the shape into a triangle and a rectangle)
25. A triangle has a base of 6, a height of $3x+1$, and an area of 21 square units. Find the value of x.
26. A Rectangle has a length of $2x-5$ and a width of 7, with a perimeter of 44 units. Find the value of x.