

Honors Geometry – Chapter 13 Review

- Know how to find the slope, midpoint and distance between 2 points.
- Know how to find a parallel and perpendicular slope
- Know how to write the equation of a line given: a) slope, y-int b) slope & a point c) 2 points
- Know how to find the magnitude of a vector
- Know how to add/subtract vectors
- Be able to write the equation of the median, altitude, or perpendicular bisector of a triangle
- Be able to write the equation of a circle given the center and radius
- Be able to identify the center and radius of a circle given the equation
- Be able to write the equation of a circle given the coordinates of the diameter
- Know how to do coordinate placement
- Know how to do coordinate proofs

Example problems:

1. Given the points A(3, 4) and B(-3, 2).
 - a) Find the slope.
 - b) Write the equation of a line that passes through the points.
 - c) Find the distance.
 - d) Find the midpoint.

2.
 - a) Find the equation of a line that passes through (3, -2) and has $m = -\frac{1}{2}$.
 - b) Find the equation of a line perpendicular to this that passes through (-1, 9)

3. Given the vectors \vec{A} (-2, 4) and \vec{B} (5, -7). Find:
 - a) $A + B$
 - b) $2A - B$

4. The vertices of $\triangle ABC$ are A(2, 4) B(-4, 6) and C (9, 15).
 - a) Find the equation of the line containing the median to side AB.
 - b) Find the equation of the altitude to BC.

5. Find the magnitude of a vector with A(-3, 1) and B(7, -5).

6. Do Self Test 2, #6-9 to practice coordinate placement and proofs. The Chapter Review and Chapter Test are also great to review coordinate placement and proofs.

Answers:

1. a) $\frac{2}{9}$ b) $y = \frac{2}{9}x + \frac{10}{3}$ c) $\sqrt{85}$ d) (0, 3)
2. a) $y = -\frac{1}{2}x - \frac{1}{2}$ b) $y = 2x + 11$
3. a) (3, -3) b) (-9, 15)
4. a) $y = -x + 4$ b) $y = (-\frac{13}{9}) + \frac{62}{9}$
5. $2\sqrt{34}$

