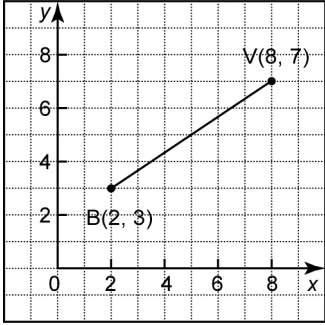Name: _____   Date: _____

Chapter 2 Practice Test

1. The midpoint of the line segment with endpoints A(-4, -5) and B(2, 3) is
   A (-3, -4)   B (-2, -2)
   C (-1, -1)   D (-4.5, 2.5)

2. The length of the line segment with endpoints C(-3, -5) and D(2, -4) is
   A $\sqrt{82}$ B $\sqrt{40}$
   C $\sqrt{106}$ D $\sqrt{26}$

3. An equation for the circle with centre (0, 0) and radius 8 is
   A $x^2 + y^2 = 64$ B $x^2 + y^2 = 16$
   C $x^2 + y^2 = 8$ D $x^2 + y^2 = 2$

4. The endpoints of a diameter of a circle are A(-3, 7) and B(5, -3). The coordinates of the centre of this circle are
   A (-4, 5)   B (1, 2)
   C (13, -13)   D (-11, 17)

5. The point (-4, 5) lies on a circle with centre (0, 0). An equation for the circle is
   A $x^2 + y^2 = 20$ B $x^2 + y^2 = 9$
   C $x^2 + y^2 = 1$ D $x^2 + y^2 = 41$

6. Find the midpoint and the length of the line segment defined by each pair of endpoints.
   a) A(-9, -2) and B(5, -4)
   b) C(-2, -5) and D(5, -2)

7. a) Draw the triangle with vertices A(-5, -2), B(-1, 6), and C(3, -1).
   b) Determine an equation for the median from A.
   c) Determine an equation for the perpendicular bisector of AB.

8. The library is located exactly halfway between Brandon's house and Vaughn's house. The intervals on the grid represent 1 km.

   a) How far apart are Brandon's house and Vaughn's house, to the nearest tenth of a kilometre?
   b) Determine the coordinates of the library.

9. The vertices of a triangle are D(-4, -2), E(-2, 6), and F(6, -4).
   a) Determine the lengths of the sides of the triangle.
   b) Classify $\triangle$DEF. Explain your reasoning.
   c) Determine the perimeter of $\triangle$DEF. Round your answer to the nearest tenth of a unit.
   d) Describe how you could use geometry software to verify your answers in parts a), b), and c).

10. a) Plot the triangle with vertices G(-5, -4), H(-1, 8), and I(3, -6).
    b) Determine an equation for the median from vertex G.
    c) Determine an equation for the right bisector of GH.
    d) Determine an equation for the altitude from G to HI.