Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 5 – Deriving the Distance Formula**

Monica

Geometry Period:\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** For each of the questions below:

1. Identify the coordinates of points A, B, and C
2. Determine the lengths of AB and AC
3. Use the Pythagorean Theorem to determine the length of BC (If necessary, write your answer in simplest radical form.)

1)



Coordinates of A:\_\_\_\_\_\_\_\_\_\_ Length of AB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates of B:\_\_\_\_\_\_\_\_\_\_ Length of AC = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates of C:\_\_\_\_\_\_\_\_\_\_ Length of CB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

2)

Coordinates of A:\_\_\_\_\_\_\_\_\_\_ Length of AB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates of B:\_\_\_\_\_\_\_\_\_\_ Length of AC = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates of C:\_\_\_\_\_\_\_\_\_\_ Length of CB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_



3)

Coordinates of A:\_\_\_\_\_\_\_\_\_\_ Length of AB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates of B:\_\_\_\_\_\_\_\_\_\_ Length of AC = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates of C:\_\_\_\_\_\_\_\_\_\_ Length of CB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_



4) Look back at the coordinates for questions 1 – 3. Were any of the x-coordinates the same? Were any of the y-coordinates the same? Why did this happen?

5) The diagram below represents all of the questions you just answered. (Don’t believe me? Look back at your answer for question #4.) Determine the length of CB the same way you did for questions 1 – 3.

Coordinates of A:\_\_\_\_\_\_\_\_\_\_ Length of AB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates of B:\_\_\_\_\_\_\_\_\_\_ Length of AC = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates of C:\_\_\_\_\_\_\_\_\_\_ Length of CB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**C** 

**A**

**B** 