MPM2DB – Mid-Unit In-Class / Take-Home Assignment **(SHOW AND EXPLAIN ALL OF YOUR WORK)**

1 Determine the length of the line segment with end points A(-6, 4) and B(-2, -3).

2. What is the midpoint of the line segment from question 1?

3. What is the equation of the circle centred at the origin through the point (5, 7)?

4. What is the radius of the circle centred at the origin through the point (-3, 7)?

5. What is the equation of the line perpendicular to the line y = 5 through the point (-3, 9)?

6. What is the equation of the line parallel to the x-axis through the point (9, 4)?

7. Given ∆ABC with vertices A(2, 8), B(-5, 5) and C(9, 1):

 a. Find the equation of the median from A to BC.

 b. Find the equation of the right bisector of side AC.

8. In ∆DEF, the equation of the altitude from D through EF is $4x+3y-13=0$ and the equation of the altitude from E through DF is $2x-y-4=0$.

 a. What do you call the point where these lines intersect?

 b. Find the point where these lines intersect.

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|  | Criteria | Level 1 | Level 2 | Level 3 | Level 4 |
| K | Demonstrate an understanding of concepts | • demonstrates limited understanding of concepts | • demonstrates some understanding of concepts | • demonstrates considerable understanding of concepts | • demonstrates thorough understanding of concepts |
| A | Carrying out an algorithm  | • carries out only simple algorithms accurately | • carries out algorithms with inconsistent accuracy  | • carries out algorithms with considerable accuracy | • carries out algorithms with near-perfect accuracy |
| C | Explanation of stepsClarity and organization of solutions | • steps are not well explained• solutions are not organized or easy to follow | • steps are somewhat well explained• solutions are somewhat organized and easy to follow | • steps are generally well explained• solutions are generally organized and easy to follow | • steps are consistently well explained• solutions are consistently organized and easy to follow  |

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