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| Overall |
| TI |  | CO |  |

Chapter 2 Task

Complete 1 of the following 3 questions (#1-3)

1. Show that the midpoints of the sides of any triangle are the vertices of a triangle exactly one- half the dimensions of the original with sides parallel to the sides of the originals,

 2. Show that the midpoints of the sides of any quadrilateral are the vertices of a parallelogram.

3. Show that a median divides any triangle into 2 smaller triangles with equal areas.

Complete 1 of the following 3 questions (#5-7)

5. Draw a circle with a radius of 5 cm. Choose any three points on the circle and form a triangle. Prove that the point of intersection of the perpendicular bisectors is the centre of the circle (i.e. the circumcentre).

6. The sides of the triangle are defined by the equations x+ 2y - 2 = 0, 2x - y - 4 = 0, and 3x + y + 9 = 0. Determine the type of triangle that is formed by these three sides.

7. A dirt bike accident occurs in a secluded forest area that is just off of Highway 2 and Highway 10. On a coordinate grid of the area, with the scale 1 unit represents 1 km.

The accident is located at P(2, 3), Highway 2 is represented by the equation y = 2x + 5, and Highway 10 is represented by the equation y = -0.5x -6. The emergency crew can choose to take highway 2 or 10. In either case, they have to park and travel on foot to the scene of the accident. Determine the coordinates of the closet point to the accident. Be sure to prove algebraically and show all your work.

**Deadline: Fri Oct 14**

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|  | Description | **ND** | **Level 1** | **Level 2** | **Level 3** | **Level 4** |
| TI | Part 1 |  | -accurate graph of situation- incorrect data calculations | - some errors in calculations or graphing, or difficulty connecting concepts | - calculates m, M, d without errors and makes connections between concepts.  | - calculates m, M, d with no errors and make concrete connections between concepts -Demonstrates multiple solutions |
|  | Part 2 |  | -accurate graph of situation- incorrect data calculation | -accurate graph of situation-begins planning in correct direction but has difficulty with calculations | -accurate graph of situation-chooses proper method, makes correct calculations, and draws conclusion with little or no evidence-minor errors | -exceptional graph of situation-chooses proper method, makes correct calculations, and draws conclusion with proper supporting evidence |
| CO | Draws conclusion |  | Communicates limited understanding, inconsistent | Communicates some understanding, minor errors | Communicates effective understanding, consistently | Communicates outstanding understanding, no errors |
|  | Format |  | Infrequent use of proper formats, limited justification of answers, limited clarity | Some use of proper formats, some justification of answers, some clarity | Frequent use of proper formats, considerable justification of answers, considerable clarity | Always uses proper formats, outstanding justification of answers, outstanding clarity |
|  | Clarity |  | Infrequent use of proper formats, limited justification of answers, limited clarity | Some use of proper formats, some justification of answers, some clarity | Frequent use of proper formats, considerable justification of answers, considerable clarity | Always uses proper formats, outstanding justification of answers, outstanding clarity |

Assignments submitted on or before ***Tues October 11th*** will be returned with feedback before the test.