**YEAR 11 TEST 6 Review Homework calculator allowed ENHANCED**

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Answer sheet**

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|  | **Algebra: Tangents and Area** |  |
| **1.****M** | Here is a speed time graph for a train.a)     Work out an estimate the distance travelled by the train in the first 20 seconds. Use four strips of equal width. ………………… mb)     Is your answer to a) an over estimate of an under estimate of the actual distance travelled by the train? Give a reason for your answer.………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………… | **(3)****(1)** |
| **2.****F** | A ball is thrown from a point 6 metres above the ground.The graph shows the height of the ball above the ground, in metres.Estimate the speed of the ball in m/s after 1 second.You must show your working. | **(2)** |
|  | **Geometry: Transformations** |  |
| **1.****F** | Square *OABC* is drawn on a centimetre grid.*O* is (0, 0)     *A* is (2, 0)    *B* is (2, 2)     *C* is (0, 2)a)     *OABC* is translated by the vector $\left(\begin{array}{c}0\\2\end{array}\right)$  Circle the number of invariant points on the perimeter of the square. 0                           1                           2                           4b)     *OABC* is enlarged, scale factor -1, centre (2, 2) Circle the number of invariant points on the perimeter of the square. 0                           1                           2                           4c)     *OABC* is reflected in the line *y* = 4 - *x* Circle the number of invariant points on the perimeter of the square. 0                           1                           2                           4 | **(1)****(1)****(1)** |
| **2.****F** | Shape **P** is reflected in the line *y* = –1 to give shape **Q**.Shape **Q** is reflected in the line *x* = 4 to give shape **R**.Describe fully the **single** transformation that maps shape **P** onto shape **R**. ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………… | **(3)** |
| **3.****F** | This diadram shows triangles CDE and PQR.CDE is mapped tp PQR by combining two single transformations.The first is a rotation of 90° anticlockwise about E.Describe the second transformation.………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………… | **(3)** |
| **4.****M** | Enlarge shape P by scale factor - ½ with centre of enlargement (0,0)  | **(3)** |
| **5.****M** | On the grid, enlarge the triangle by scale factor –1½, centre (2, 0) | **(3)** |