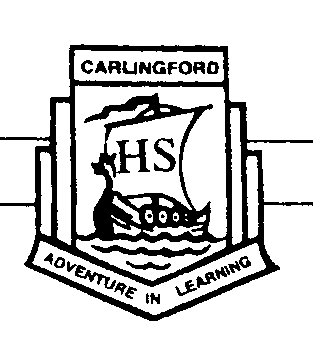
**Carlingford High School**



**Mathematics**

**Year 9, 5.1 Term 2 Examination**

**2019**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Ms Bennett**

*Time allowed: The whole period*

* Show all necessary working.
* Answer all questions in the spaces provided.
* Marks may be deducted for careless or untidy work.
* Complete the examination in blue or black pen.
* Calculators may be used
* Study notes may be used

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Topic** | **Linear Relationships** | **Area, Surface Area and Volume** | **Algebraic Expressions** | **Total** |
| **Mark** | /18 | /29 | /28 | /75 |

**Section 1: Linear relationships (18 marks)**

|  |  |  |
| --- | --- | --- |
| **1.** | On the following coordinate graph, plot and label the points A , B and C | **3** |
| **2.** | For the following point shown on the coordinate graph, write down the coordinate and which quadrant it is in:    Coordinate: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Quadrant: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **2** |
| **3.** | Translate this triangle 4 units to the left and 3 units down. Mark the vertices of the new triangle A’, B’ and C’  . | **3** |
| **4.** | For the following equations, complete the table of values, then graph the line on the coordinate graph given.  a)   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | -1 | 0 | 1 | 2 | |  |  |  |  |  |     b)   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | -1 | 0 | 1 | 2 | |  |  |  |  |  | | **3**  **3** |
| **5.** | This graph shows the equation . Write down the y-intercept and the x-intercept. | **2**  y-intercept = \_\_\_\_\_\_\_\_\_  x-intercept = \_\_\_\_\_\_\_\_\_ |
| **6.** | Does the point lie on the line ? Show working out to justify your answer. | **2** |

**Part 2: Area, Surface Area and Volumes- 29 marks**

|  |  |  |
| --- | --- | --- |
| **7.** | Find the area for the following shapes. If necessary give the answer to 1d.p.  a)    b)    c)    d) | **8** |
| **8.** | Find the surface area of the following prisms, correct to 2d.p.  a)    b)    Surface Area of a cylinder:  R=radius, =height | **3**  **3** |
| **9.** | Calculate the volume of the following objects:  a)    b)    c)    d) (correct to 2d.p.) | **2**  **2**  **3**  **3** |
| **10.** | a) Find the volume of this wooden chest:    b) Find the capacity of the wooden chest in Litres, to 1d.p. | **3**  **2** |

**Part 3- Algebraic Expressions- 28 marks**

|  |  |  |
| --- | --- | --- |
| **11.** | Write the following worded statements as an algebraic expression:  a) The sum of and 5  b) The product of and  c) The quotient of and 8  d) 5 multiplied by the sum of and | **1**  **1**  **1**  **1** |
| **12.** | Circle whether the following statements are true or false:  a)  True False  b) =  True False | **1**  **1** |
| **13.** | Calculate the following substitutions given that:    a)  b)  c)  d)  e) | **1**  **1**  **1**  **1**  **1** |
| **14.** | Simplify the following expressions:  a)  b)  c)  d)  e)  f) | **1**  **1**  **1**  **1**  **1**  **1** |
| **15.** | Expand the following brackets:  a)  b) | **1**  **1** |
| **16.** | Expand and simplify:  a)  b)  c) | **2**  **2**  **2** |
| **17.** | Factorise:  a)  b) | **1**  **2** |