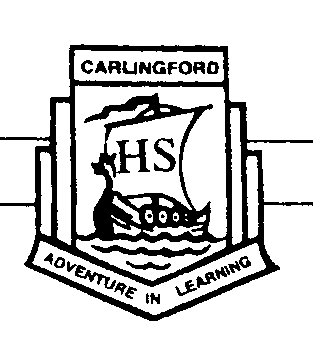
**Carlingford High School**



**Mathematics**

**Year 9, 5.1 Term 3 Test**

**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** | **Solving Equations** | **Geometry** | **Total** |
| **Mark** | /33 | /46 | /79 |

**Section 1: Solving Equations**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Solve the following one-step equations: | | Marks |
| 1. |  |  | 2 |
|  |  |  | 2 |
|  |  |  | 2 |
|  |  |  | 2 |
|  |  |  | 2 |
|  |  |  | 2 |
|  |  |  | 2 |
| 2. | Give an example of an algebraic equation:  Give an example of an algebraic expression:  Describe, in words, the difference between an equation and an expression: | | 3 |
| 3. | Match up the following **inverse operations**   |  |  | | --- | --- | | **Operation** | **Inverse Operation** | | Subtracting | Multiplying | | Adding | Dividing | | Multiplying | Adding | | Dividing | Subtracting | | Squaring | Squaring | | Square rooting | Square rooting | | | 6 |
| 4. | Underneath, you can see a student’s working to solve an equation. There is an error in the work. Explain what the error is, and what the student should have done instead: | | 2 |
| 5. | Solve the following two step equations, showing all working: | |  |
|  |  |  | 2 |
|  |  |  | 2 |
|  |  |  | 2 |
| 6. | Solve, by first expanding the brackets: | |  |
|  |  |  | 2 |

**Section 2: Geometry**

|  |  |  |
| --- | --- | --- |
| 1. | a) Name the angle shown, using 3 letters  b) Measure the angle and write down the size in degrees | 2 |
| 2. | a) For Circle the correct classification: acute, straight, obtuse, right, reflex  b) Measure and write down the size in degrees | 2 |
| 3. | Find the value of the following pronumerals, giving reasons for each: **(See the reason bank on the last page)**  a)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  b)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  c)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  d)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 8 |
| 4. | What angle is complementary to 750? | 1 |
| 5. | What angle is supplementary to 180? | 1 |
| 6. | Find the value of the following pronumerals, giving reasons for each: **(See the reason bank on the last page)**  a)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  b)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  c)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  d)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 10 |
| 7. | Are the following pair of lines parallel? Why/ Why not? | 2 |
| 8. | Find the value of the following pronumerals, giving reasons for each: **(See the reason bank on the last page)**  a)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  b)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  C)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  d)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Reason: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 8 |
| 9. | Classify the following quadrilaterals, from the following:  Rhombus, rectangle, parallelogram, square, kite, quadrilateral    Type: Type: Type: | 6 |
| 10.  a)  b)  c) | For each set of three triangles, decide **which two** are congruent (tick them) and write down which test you used (SSS, SAS, AAS, RHS)    Test:  Test:  Test | 6 |

**Geometry reason bank:**

**\*Angle sum of a triangle**

**\*Angle sum of a quadrilateral**

**\*Angles on a straight line**

**\*Angles in a right angle**

**\*Vertically opposite angles**

**\*Angles at a point**

**\*Corresponding angles on parallel lines**

**\*Co-interior angles on parallel lines**

**\*Alternate angles on parallel lines**

**\*External angle of a triangle**

**\*Base angles of isosceles triangle**