School logo

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| **PROJECT MEMORANDUM** | | |
| **SUBJECT** | **:** | **MATHEMATICS** |
| **GRADE** | **:** | **8** |
| **TASK** | **:** | **Term 3 Project** |
| **MARKS** | **:** | **60** |
| **DURATION** | **:** | **1 - 2 Week** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question number** | **1** | **2** | **3** | **Total** |
| **Total marks** | **20** | **20** | **20** | **60** |
| **Learner marks** |  |  |  |  |
| **Moderated marks** |  |  |  |  |



**MATHEMATICS**

**GRADE 9**

**TERM 3 2021**

**EXEMPLAR PROJECT**

**TRANSFORMATION GEOMETRY**

**TRANSFORMATION GEOMETRY**

**DATE: TERM 3 2021**

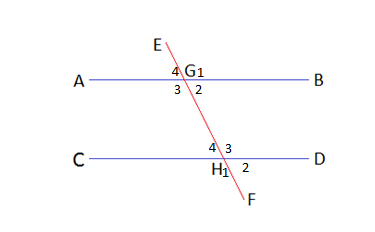
**TIME: 3 HOURS**

**TOTAL: 50**

**NAME OF LEARNER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ GRADE 9: \_\_\_**

**Section A**

**This section consists of questions on Straight line geometry.**

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* 1. **What is the relationship between the lines AB and CD? Provide a reason for your answer.**

**The distance between the two lines are the same throughout the length of the two lines**🗸**. The lines are parallel**🗸 **(2)**

* 1. **What is the name given to line EF?**

**Transversal**🗸 **(1)**

* 1. **Corresponding angles**🗸**, co interior angles**🗸**, alternate angles**🗸 **(3)**

**Accept ( vertically opposite angles, supplementary angles, complementary angles)**

**1.4 Use your protractor to measure each of the angles in the given pairs of angles and then indicate the relationship between the two angles in each pair.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pair number** | **Angle 1** | **Angle 1 measure** | **Angle 2** | **Angle 2 measure** | **What is the relationship between the two angles ?** | **What is the name given to angle pair?** |
| **1** |  | **All correct measures**🗸🗸(2)  **One or two incorrect measures**🗸(1)  **More than two incorrect measures** (0) |  | **All correct measures**🗸🗸(2)  **One or two incorrect measures**🗸(1)  **More than two incorrect measures** (0) | **=** 🗸(1) | **Vertically opposite angles**🗸(1) |
| **2** |  |  | **= 1800 -** 🗸(1)  **Or**  **= 1800 -** 🗸(1)  Or  **= 1800**🗸(1) | **Supplementary angles**🗸(1) |
| **3** |  |  | **=** 🗸(1) | **Corresponding angles**🗸(1) |
| **4** |  |  | **=** 🗸(1) | **Alternate angles**🗸(1) |
| **5** |  |  | **= 1800 -** 🗸(1)  **Or**  **= 1800 -** 🗸(1)  Or  **= 1800**🗸(1) | **Co interior angles**🗸(1) |

**(14)**

**[TOTAL 20]**

**Section B**

**1 x mark for identifying the quadrilateral**

**1 x mark per property (accept any 3 properties per quadrilateral)**

|  |  |
| --- | --- |
| **Name of quadrilateral** | **Properties** |
| **Rectangle** | * Both pairs of opposite sides parallel * Both pairs of opposite sides equal in length * All interior angles equal to 90° * Two lines of symmetry * The diagonals bisect each other and is equal in length |
| **Parallelogram** | * Both pairs of opposite sides parallel * Both pairs of opposite sides equal in length * Both pairs of opposite interior angles equal in size * No lines of symmetry * The diagonals bisect each other • * The diagonals are not equal in length |
| **Rhombus** | * Both pairs of opposite sides parallel * All sides equal in length * Both pairs of opposite interior angles equal in size * Two lines of symmetry * The diagonals bisect each other perpendicularly * The diagonals bisect the interior opposite corner angles |
| **Kite** | * Two pairs of adjacent sides equal in length * One pair of opposite angles equal to each other where the short side meets the longer side * One line of symmetry * The long diagonal bisect the short diagonal perpendicularly * The diagonals bisect the interior opposite corner angles only where the adjacent sides meet |
| **Trapezium** | * the sum of all the four interior angles of the trapezium is equal to 360° * A trapezium has two parallel sides and two non-parallel sides. * The diagonals of regular trapezium bisect each other. * No lines of symmetry |

**[TOTAL 20]**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **MARK ALLOCATION** | **QUESTION CRITERIA (SECTION C)** | | | |
| **Appearance**  **(5)** | **Drawing the Streets**  **(5)** | **Buildings**  **(5)** | **Park and additions**  **(5)** |
| **0** | Not done. | Not done. | Not done. | Not done. |
| **1** | The incorrect page size is used ( less than A3), incorrect road lines are drawn , no buildings and additions, no colour or decoration. Work is untidy. | Incorrect lines drawn. Traffic lights or stop signs are not drawn . No streets are named. | Less than 5 buildings are correctly positioned as per angle relationship. Building names have not been included. 2d shapes were not used to construct the buildings. | Park has been included but dimensions and the location is incorrect. Two or More of the following are not included :  The sandbox  The swimming pool  The pond  The picnic area  Less than 3 additional items were included on the poster. |
| **2** | The incorrect page size is used ( less than A3),or roads are drawn with a few mistakes , a few buildings have been included. Work is untidy. | Lines are drawn but incorrectly, no transversals drawn, an attempt was made to include traffic lights or stops but at incorrect positions. No streets are named. | More than 5 buildings are correctly positioned as per angle relationship. Building names have not been included. Some 2d shapes were used to construct the buildings. | Park has been included but either the dimensions or the location is incorrect. All of the following are included but the incorrect dimensions are used :  The sandbox  The swimming pool  The pond  The picnic area  Less than 3 additional items were included on the poster. |
| **3** | The correct page size is used (A3) but lines and points are not clear and buildings are incorrectly constructed and untidy . | Either the parallel lines are correctly drawn as streets or the transversals are correctly drawn as streets. Traffic lights or stop signs are drawn in the correct positions. No streets are named. | All 9 buildings are correctly positioned as per angle relationship. Buildings have not been named. Some 2 d shapes were used to construct the buildings. | Park has been included with the correct dimensions and in the correct location. All of the following are included but the incorrect dimensions are used for a few :  The sandbox  The swimming pool  The pond  The picnic area  Less than 3 additional items were included on the poster. |
| **4** | The correct page size is used (A3). The buildings are correctly constructed and coloured ,but work is untidy , there is no organisation , lines and points are not clear , the images and additions are not coloured or decorated. | Less than three parallel lines are correctly drawn as streets or less than  two transversals are correctly drawn as streets. The transversals are not parallel to each other. Traffic lights or stop signs are drawn at less than 4 different intersections. Some streets are named. | All 9 buildings are correctly positioned as per angle relationship. Buildings have been named. Some 2 d shapes were used to construct the buildings. | Park has been included with the correct dimensions and in the correct location. All of the following are included with the correct dimensions for all:  The sandbox  The swimming pool  The pond  The picnic area  Less than 4 additional items were included on the poster. |
| **5** | The correct page size is used (A3). The buildings are correctly constructed and coloured, work is neat , well organized , lines and points are clear and all images and additions are coloured or decorated. | Three parallel lines are correctly drawn as streets, two transversals are correctly drawn as streets. The transversals are not parallel to each other. Traffic lights or stop signs are drawn at 4 different intersections. All streets are named. | All 9 buildings are correctly positioned as per angle relationship. Building names have been named and neatly included on or near the buildings. The buildings were constructed using different 2d shapes. | Park with correct measurements is included in the correct location on the poster.  The sandbox with correct dimensions has been drawn.  The swimming pool with the correct dimensions has been drawn  The pond with the correct radius is included.  The picnic area has been drawn with the correct triangle.  5 additional items were included on the poster. |
| **LEARNERS’ MARK**  20 |  |  |  |  |