

**MATHEMATICS**

**GRADE 9**

**TERM 3 2021**

**EXEMPLAR PROJECT : RUBRIC**

**TRANSFORMATION GEOMETRY**

**TRANSFORMATION GEOMETRY**

**DATE: TERM 3 2021**

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

**TOTAL : 50**

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| **MARK ALLOCATION** | **QUESTION CRITERIA** | | | | | | | | |
| **1.**  **Name chart and**  **2.**  **Coordinates**  **(5)** | **3.**  **Drawing original shape**  **(5)** | **4. Transformation 1 : Translation (x + 3 , y – 3)**  **(5)** | **5. Transformation 2 : Translation (x - 2 , y + 2)**  **(5)** | **6. Transformation 3 : Reflection in the x–Axis**  **(5)** | **7. Transformation 4 : Reflection in the y–Axis**  **(5)** | **8.**  **Your IMAGE**  **(15)** | **9.**  **Description of sequence of transformations**  **(3)** | **10.**  **Motto**  **(2)** |
| **0** | Not done | Not done. | Not done. | Not done. | Not done. | Not done. | Not done. | Not done. | Not done. |
| **1** | Only name chart completed, no coordinates indicated. | Only points are plotted, there are more than 3 ordered pairs missing. | Shows limited understanding  of the translation required and an attempt to obtain the ordinate of either x or y is evident. | Shows limited understanding  of the translation required and an attempt to obtain the ordinate of either x or y is evident. | Shows limited understanding  of the reflection required and an attempt to obtain the ordinate of either x or y is evident. | Shows limited understanding  of the reflection required and an attempt to obtain the ordinate of either x or y is evident. | Shows limited understanding  of the transformations required and an attempt to obtain the ordinate of either x or y for the first image is evident. | Attempts to describe the transformation but the sequence and transformations described are incorrect. | Motto or slogan is provided but it is not appropriate or is incomplete. |
| **2** | Name chart completed and either x or y ordinate indicated only. | Only points are plotted, there are less than 3 ordered pairs missing. | Shows limited understanding  of the translation required and an attempt to obtain the ordinates of x and y is evident. | Shows limited understanding  of the translation required and an attempt to obtain the ordinates of x and y is evident. | Shows limited understanding  of the reflection required and an attempt to obtain the ordinates of x and y is evident. | Shows limited understanding  of the reflection required and an attempt to obtain the ordinates of x and y is evident. | Shows limited understanding  of the transformations required and an attempt to obtain the ordinate of x and y for the first image is evident. | Describes the transformations however, there are a few errors or mistakes in the description. | Motto or slogan is provided, it is well thought out, clear and motivating |
| **3** | Name chart completed and both x and y ordinates are indicated only. | Only points are plotted, all ordered pairs are correctly plotted. | Shows understanding  of the translation required and correctly obtains all ordered pairs only. | Shows understanding  of the translation required and correctly obtains all ordered pairs only. | Shows understanding  of the reflection required and correctly obtains all ordered pairs only | Shows understanding  of the reflection required and correctly obtains all ordered pairs only | The x and y ordinates and only the ordered pair for the first image is correctly provided | Correctly describes the sequence of the transformations. |  |
| **4** | Name chart completed, both x and y ordinates are indicated and the ordered pairs are provided (however there are a few errors or mistakes indicated in the ordered pair) | All ordered pairs are correctly plotted and the original shape is drawn but there are a few errors or the shape is incomplete. | Shows understanding  of the translation required, correctly obtains the ordered pairs and is able to plot the translated image but there are a few errors or the shape is incomplete. | Shows understanding  of the translation required, correctly obtains the ordered pairs and is able to plot the translated image but there are a few errors or the shape is incomplete. | Shows understanding  of the reflection required, correctly obtains the ordered pairs and is able to plot the reflected image but there are a few errors or the shape is incomplete. | Shows understanding  of the reflection required, correctly obtains the ordered pairs and is able to plot the reflected image but there are a few errors or the shape is incomplete. | The ordered pair for the first image is correct and an attempt to obtain the ordinate of either x or y for the second image is evident. |  |  |
| **5** | Name chart completed, both x and y ordinates are indicated and the ordered pairs are all correctly provided. | All ordered pairs are correctly plotted and the original shape is correctly drawn, a closed figure is created. | Shows understanding  of the translation required, correctly obtains the ordered pairs and is able to correctly plot the translated image. | Shows understanding  of the translation required, correctly obtains the ordered pairs and is able to correctly plot the translated image. | Shows understanding  of the reflection required, correctly obtains the ordered pairs and is able to correctly plot the reflected image. | Shows understanding  of the reflection required, correctly obtains the ordered pairs and is able to correctly plot the reflected image. | The ordered pair for the first image is correct and an attempt to obtain the ordinate of x and y for the second image is evident. |  |  |
| **6** |  |  |  |  |  |  | The ordered pair for the first image and the second image is correctly provided only. |  |  |
| **7** |  |  |  |  |  |  | The ordered pairs for both images are correct but the graphing of the translation and reflection are both incorrect. |  |  |
| **8** |  |  |  |  |  |  | The ordered pairs for both images are correct but the graphing of either the translation or reflection is incorrect. |  |  |
| **9** |  |  |  |  | . |  | The ordered pairs for both images are correct and the graphing of both the translation and reflection are evident but there are many errors or omissions and the graphing is incomplete. |  |  |
| **10** |  |  |  |  |  |  | The ordered pairs for both images are correct and the graphing of both the translation and reflection are evident but there are a few errors or omissions. |  |  |
| **11** |  |  |  |  |  |  | The ordered pairs for both images are correct and almost all of the graphing in the coordinate plane is correct and most of the points are accurately identified. |  |  |
| **12** |  |  |  |  |  |  | The ordered pairs for both images are correct and all of the graphing in the coordinate plane is correct and all of the points are accurately identified. |  |  |
| **13** |  |  |  |  |  |  | The ordered pairs for both images are correct, all of the graphing in the coordinate plane is correct , all of the points are accurately identified but the work is untidy and not organized. |  |  |
| **14** |  |  |  |  |  |  | The ordered pairs for both images are correct, all of the graphing in the coordinate plane is correct , all of the points are accurately identified , the work is neat and organized. |  |  |
| **15** |  |  |  |  |  |  | The ordered pairs for both images are correct ,all of the graphing in the coordinate plane is correct, all of the points are accurately identified, work is neat , well organized , lines and points are clear and all shapes are neat and the image is coloured or decorated. |  |  |
| **MARK**  **PER QUESTION** |  |  |  |  |  |  |  |  |  |
| **TOTAL MARK** | | | | | | | |  | |

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| **COGNITIVE LEVEL WEIGHTINGS**  **GRADE : 9 PROJECT** | | | | | | | | |
| **GRADE** | **KNOWLEDGE QUESTIONS**  **25%** | | **ROUTINE PROCEDURES**  **45%** | | **COMPLEX QUESTIONS**  **20%** | | **PROBLEM SOLVING**  **10%** | |
| 9 | QUESTION | MARK | QUESTION | MARK | QUESTION | MARK | QUESTION | MARK |
| **1.**  **Name chart and**  **2.**  **Coordinates** | 5 | **4. Transformation 1 : Translation (x + 3 , y – 3)** | 5 | **8.**  **Your IMAGE** | 10 | **8.**  **Your IMAGE** | 5 |
| **3.**  **Drawing original shape** | 5 | **5. Transformation 2 : Translation (x - 2 , y + 2)** | 5 |  |  |  |  |
| **10.**  **Motto** | 2 | **6. Transformation 3 : Reflection in the x–Axis** | 5 |  |  |  |  |
|  |  | **7. Transformation 4 : Reflection in the y–Axis** | 5 |  |  |  |  |
|  |  | **9.**  **Description of sequence of transformations** | 3 |  |  |  |  |
| **Total marks** | **12** | | **23** | | **10** | | **5** | |
| **%** | **24%** | | **46%** | | **20%** | | **10%** | |

**WEIGHTING FRAMEWORK**