**Reflection**

****

Reflection over the following mirror lines:

|  |  |  |
| --- | --- | --- |
| **Object** | **Mirror Line** | **Image** |
| Example: (2, -5) |  |  |
| Example: |  |  |
| Example: |  |  |
| Example: (-3, 2) |  |  |

**Translation**





Translations without graphing:

Example: Find the image coordinates A(9, -5) with a translation vector of .

Therefore: A’(7, -2)

Example: Find the object coordinates of image A’(-5, 3) with a translation vector of .

Therefore: A(-11, 1)

Example: Find the translation vector of A(4, -5) with image A’(-8, 7).

Therefore: T(-4, -12)

**Rotation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object** | **Angle** | **Direction** | **Center** | **Image** |
|  | 90o | Clockwise | (0,0) |  |
|  | 90o | Counterclockwise | (0,0) |  |
|  | 180o | Clockwise/Counterclockwise | (0,0) |  |

*To find the Centre of Rotation (COR):*

1. Connect 2 corresponding vertices.

2. Construct a perpendicular bisector.

3. The point in intersection is the COR.

**Enlargement**

*To enlarge each point:*

where

Example:

Find the image of enlargement for point .

A’ =

=

= (

=

*To find the Centre of Enlargement (COE):*

1. Draw lines connecting corresponding

vertices.

2. The point of intersection is the COE.