PRACTICE WORKSHEET

Subject: Mathematics **Class:** ICSE 10th

Chapter: Reflection **Worksheet:** M-12

Q. 1. Find the coordinates of the image of the points (5, - 3) under (i) reflection in the x- axis (ii) reflection in the y- axis and (iii) reflection in the origin.

Q. 2. A point P (3, - 2) is reflected in the origin as P`. Point Q (- 7, 1) is reflected in the x- axis as Q`. Write down the co-ordinates of P` and Q` calculate the distance P`Q`.

Q. 3. The image of a point P under reflection in the x- axis is (- 3, 2). Write down the co-ordinates of P.

Q. 4. A triangle ABC where A (- 2, 3), B (4, - 4) C (6. - 7) is reflected in the x- axis onto $\Delta A`, B`, C`$ and then $\Delta A`, B`, C`$ is reflected in the origin onto $\Delta A`` B`` C``$. Write down the co-ordinates of (i) A`, B` C` & (ii) A" B" C".

Q. 5. Point A (x, 5) is reflected in the origin and its image is (2, y). Write down the values of x and y.

Q. 6. The point P (2, 3) is reflected in the origin to P` (x, y). Write down the values of x and y.

Q. 7. The point (4, 1) and (- 2, 4) are reflected in the line y = 3. Find the coordinates of their images.

Q. 8. A (5, 4) is reflected in the x-axis to a point A`.

1. Write down the coordinates of A`.
2. What type of triangle is the figure OAA`, where O is the origin? Give reason. Draw a diagram to represent it
3. State, with reason, whether the triangle OAA` has any line of symmetry.
4. Find the coordinates of A", the reflection of A in the y-axis followed by the reflection in the origin.
5. Compare the coordinates of A` and A.

Q. 9. The image of the point A (1, 5) when reflected in a line PQ is A` (7, 5). Write down the equation of the line PQ.

Q. 10. The point A (a, b) is first reflected in the y-axis and then reflected in the origin to a point A` (- 3, 4). Write the value of a and b.

Q. 11. Point A (5, 0) on reflection is mapped as A` (- 5, 0). Write the equation of the mediator.

Q. 12. Point P (3, -4) on reflection is mapped as P` (3, 4) Write the equation of the mediator.

Q. 13. A triangle ABC where A (1, 2), B (4, 8) and C (6, 8) is reflected through origin to triangle A_1 B_1 C_1. Triangle A_1 B_1 C_1 is then reflected in the x - axis to triangle A_2, B_2, C_2. Write down the coordinates of A_2, B_2, C_2. Write down a single transformation.

Q. 14. The reflection of A (2, 3) in the line y = x produced A` (3, 2). Write down the co-ordinates of the reflection of each of the points in the line y = x (i) (4, 1) (ii) (- 2, - 3).