Show all your calculations and explain how these calculations proved if the given coordinates made the specified shape.

| 1. Prove QRST is a parallelogram <br> $Q(-1,4), R(1,8), S(4,2), T(2,-2)$ | 2. Prove MNOP is a rectangle <br> $M(-6,1), N(1,4), O(3,-1), P(-4,-4)$ |
| :--- | :--- |
| 3. Prove BOXI is a square <br> $B(0,0), O(4,3), X(7,-1), I(3,-4)$ | 4. What are the coordinates of A that make <br> ABCD a parallelogram? Justify your answer. <br> $A(?, ?), B(-2,-2), C(8,5), D(5,6)$ |
| 5. Prove $\Delta U V W$ is isosceles. <br> $U(-4,7), V(2,5), W(-2,1)$ | 6. Prove ROMB is a rhombus <br> $R(-6,7), O(2,5), M(4,-3), B(-4,-1)$ |

