

Expressing Geometric Properties Worksheet 1

1. Prove that the shape with corners $A(4, 7)$, $B(8, 5)$ and $C(10, 10)$ is a scalene triangle.
2. Prove that the shape with corners $A(1, 4)$, $B(3, 0)$, $C(1, -4)$ and $D(-1, 0)$ is a rhombus.
3. Prove that the shape with corners $A(10, 8)$, $B(12, 7)$, $C(9, 6)$ and $D(11, 5)$ is a rectangle.
4. Prove that the shape with corners $A(10, 8)$, $B(13, 5)$ and $C(17, 12)$ is an isosceles triangle.
5. Prove that the shape with corners $A(-6, 4)$, $B(-3, -1)$, $C(0, -2)$ and $D(-6, -8)$ is a trapezoid.
6. Prove that the shape with corners $A(14, 11)$, $B(24, 9)$, $C(26, 3)$ and $D(16, 5)$ is a parallelogram.
7. Prove that the shape with corners $A(8, 9)$, $B(13, 10)$, $C(14, 5)$ and $D(9, 4)$ is a square.
8. Prove that the point $(4, 11)$ lies in the line $y = 0.5x + 9$.
9. Prove that the point $(6, 8)$ lies on the circle with a center of $(3, 4)$ and a radius 5.
10. Prove that the point $(6, 8)$ lies on the ellipse $\frac{(x-1)^2}{9} + \frac{(y-2)^2}{16} = 1$.