Expressing Geometric Properties Worksheet 1

1. What are the perimeter and area of the polygon defined by the points $A(12, 20)$, $B(20, 20)$ and $C(20, 8)$ and $D(12, 8)$?
   Perimeter: 96 units and Area: 40 square units.

2. What are the perimeter and area of the polygon defined by the points $A(-6, 1)$, $B(12, 14)$ and $C(12, -4)$ and $D(-6, -4)$?
   Perimeter: 324 units and Area: 72 square units.

3. What are the perimeter and area of the polygon defined by the points $A(10, 6)$, $B(13, 10)$ and $C(17, 7)$ and $D(14, 3)$?
   Perimeter: 20 units and Area: 25 square units.

4. What are the perimeter and area of the polygon defined by the points $A(9, 12)$, $B(15, 9)$ and $C(13, 5)$ and $D(7, 8)$?
   Perimeter: $4\sqrt{3} + 6\sqrt{5} \approx 20.3$ units and Area: $6\sqrt{15} \approx 23.2$ square units.

5. What are the perimeter and area of the polygon defined by the points $A(13, 10)$, $B(16, 6)$ and $C(8, 6)$ and $D(-6, -4)$?
   Perimeter: $3 + \sqrt{41} \approx 19.4$ units and Area: 16 square units.

6. What are the perimeter and area of the polygon defined by the points $A(-20, 6)$, $B(4, 12)$, $C(7, 0)$ and $D(-17, -6)$?
   Perimeter: $18\sqrt{17} \approx 74.2$ units and Area: 306 square units.

7. What are the perimeter and area of the polygon defined by the points $A(7, 12)$, $B(14, 12)$, $C(11, 7)$ and $D(2, 7)$?
   Perimeter: $21 + \sqrt{41} \approx 27.4$ units and Area: 32 square units.

8. What are the perimeter and area of the polygon defined by the points $A(0, 0)$, $B(0, 4)$, $C(7, 7)$ and $D(4, 0)$?
   Perimeter: $8 + 2\sqrt{67} \approx 24.4$ units and Area: 28 square units.

9. What are the perimeter and area of the polygon defined by the points $A(6, 2)$, $B(5, 14)$, $C(14, 6)$ and $D(11, 2)$?
   Perimeter: $25 + 2\sqrt{145} \approx 49.1$ units and Area: 50 square units.

10. What are the perimeter and area of the polygon defined by the points $A(0, 0)$, $B(7, 4)$, $C(8.5, 9.5)$, $D(12, 5)$, $E(25, 5)$, $F(13, 0)$, $G(12.5, -10.5)$ and $H(8, -1)$?
    Perimeter: $26 + 2\sqrt{65} + \sqrt{130} + \sqrt{442} \approx 74.6$ units and Area: 105.75 square units.