

3. Parallelogram ABCD has vertices A(-5, 4), B(-1, 6), C(5, 2), and D(1, 0).

$$AB = \sqrt{(-5 - (-1))^2 + (4 - 6)^2} = 2\sqrt{5}$$

$$BC = \sqrt{(-1 - 5)^2 + (6 - 2)^2} = 2\sqrt{13}$$

$$CD = \sqrt{(5 - 1)^2 + (2 - 0)^2} = 2\sqrt{5}$$

$$DA = \sqrt{(1 - (-5))^2 + (0 - 4)^2} = 2\sqrt{13}$$

$$\text{Perimeter} = 2\sqrt{5} + 2\sqrt{13} + 2\sqrt{5} + 2\sqrt{13} = 4\sqrt{5} + 4\sqrt{13} \text{ units} \\ 23.4 \text{ units}$$

7. Triangle ABC has vertices A(3, 5), B(7, 8), and C(5, -3).

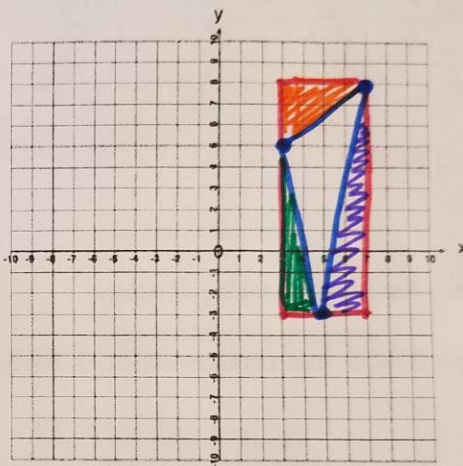
$$\square = 4 \cdot 11 = 44$$

$$\triangle = \frac{1}{2} \cdot 4 \cdot 3 = 6$$

$$\triangle = \frac{1}{2} \cdot 2 \cdot 8 = 8$$

$$\triangle = \frac{1}{2} \cdot 2 \cdot 11 = 11$$

$$\triangle = 44 - 6 - 8 - 11 = 19 \text{ units}^2$$



10. Given a circle with radius 3 and centered at (2, 4): determine if the following points are on the circle.

a. (1, 1)

$$\sqrt{(2-1)^2 + (4-1)^2}$$

$$= \sqrt{10} \approx 3.2$$

NO

b. (5, 4)

$$\sqrt{(2-5)^2 + (4-4)^2} = 3 \quad \text{yes}$$

