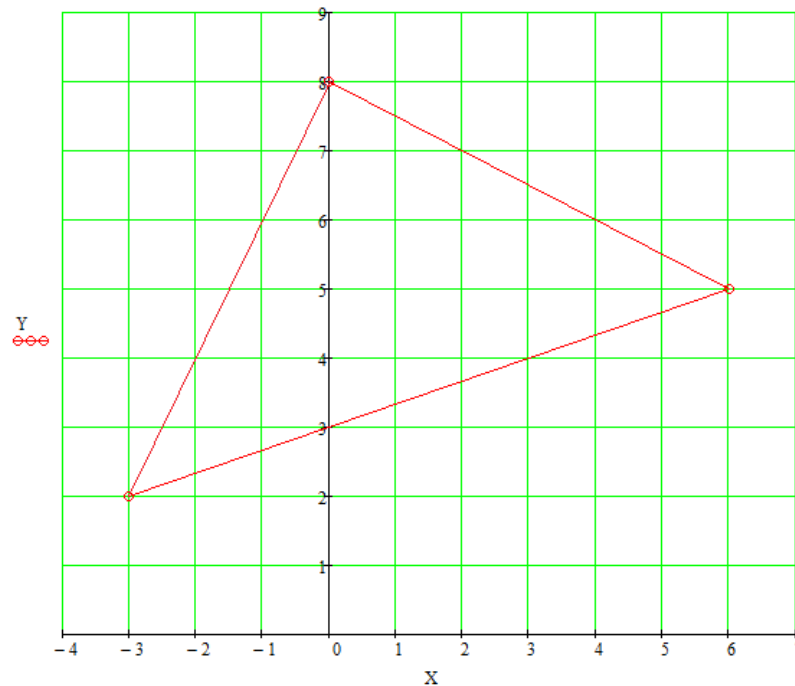


Answer on Question #50570 – Math – Geometry

Graph (0,8) (6,5) (-3,2) and find the area.

Solution.



$$S = \sqrt{p(p-a)(p-b)(p-c)};$$

$$p = \frac{a+b+c}{2};$$

$$a = \sqrt{(6-0)^2 + (5-8)^2} = \sqrt{45};$$

$$b = \sqrt{(-3-6)^2 + (2-5)^2} = \sqrt{90};$$

$$c = \sqrt{(0-(-3))^2 + (8-2)^2} = \sqrt{45};$$

$$p = \frac{\sqrt{45} + \sqrt{90} + \sqrt{45}}{2} = \frac{2\sqrt{45} + \sqrt{90}}{2};$$

$$S = \sqrt{\frac{2\sqrt{45} + \sqrt{90}}{2} \left(\frac{2\sqrt{45} + \sqrt{90}}{2} - \sqrt{45} \right) \left(\frac{2\sqrt{45} + \sqrt{90}}{2} - \sqrt{90} \right) \left(\frac{2\sqrt{45} + \sqrt{90}}{2} - \sqrt{45} \right)} =$$

$$\sqrt{\frac{2\sqrt{45} + \sqrt{90}}{2} * \frac{2\sqrt{45} + \sqrt{90} - 2\sqrt{45}}{2} * \frac{2\sqrt{45} + \sqrt{90} - 2\sqrt{90}}{2} * \frac{2\sqrt{45} + \sqrt{90} - 2\sqrt{45}}{2}} =$$

$$\sqrt{\frac{2\sqrt{45} + \sqrt{90}}{2} * \frac{\sqrt{90}}{2} * \frac{2\sqrt{45} - \sqrt{90}}{2} * \frac{\sqrt{90}}{2}} = \sqrt{\frac{(\sqrt{90})^2}{2^2} * \frac{(2\sqrt{45})^2 - (\sqrt{90})^2}{2^2}} = \sqrt{\frac{90}{4} * \frac{180 - 90}{4}} = \frac{90}{4} = 22.5.$$

Answer: 22.5 .