A(-5,-2), B(-3,3), C(2,1)

Part B: Use the distance formula or the Pythagorean Theorem to find the length of each side of triangle *ABC*. Show substituted values in equation for full credit. $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ Round to the nearest hundredth.

AB = $\sqrt{(-3+5)^2+(3+2)^2} = \sqrt{(2)^2+(5)^2} = \sqrt{4+25} = \sqrt{29} \approx 5.39$

BC = $\sqrt{(2+3)^2+(1-3)^2} = \sqrt{(5)^2+(2)^2} = \sqrt{25+4} = \sqrt{29} \approx 5.39$

AC = $\sqrt{(2+5)^2+(1+2)^2} = \sqrt{(7)^2+(3)^2} = \sqrt{49+9} = \sqrt{58} \approx 7.62$

Part C: Classify the triangle, state whether the triangle is isosceles, scalene, or equilateral. Draw a conclusion based on your results above.

△ABC is isosceles because 2 of the side lengths are equal.

Part D: Map ΔABC to $\Delta A'B'C'$ by the translation $(x, y) \rightarrow (x+4, y+5)$. Find the coordinates of *A'*, *B'* and *C'* and plot them on the grid.

A(-5,-2) → A'(-1,3) B(-3,3) → B'(1,8)

C(2,1) → C'(6,6)

Part E: Do your conclusions about ΔABC still hold for $\Delta A'B'C'$? Why or Why not?

Yes; we only translated the triangle, no change to size.