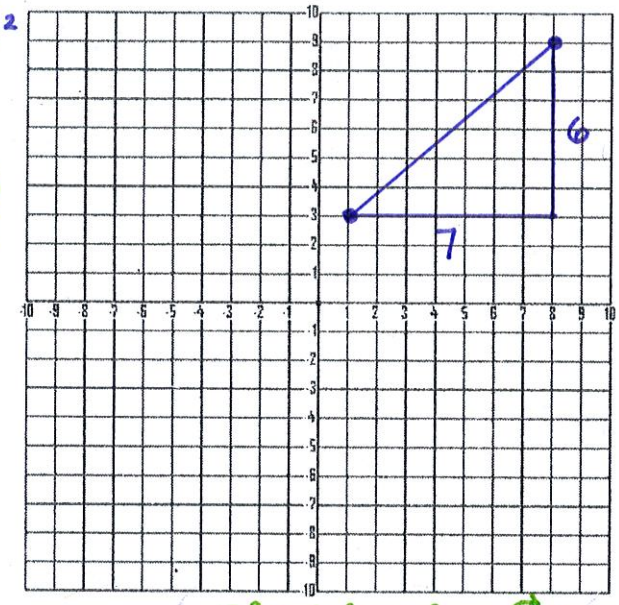
Using the Pythagorean Theorem to find the Distance Between Two Points

Big Ideas: Points on a coordinate plane can be made into a right triangle.
The Pythagorean Theorem can find a missing side of a right triangle.

Examples:

Find the distance between:

(1, 3) and (8, 9)

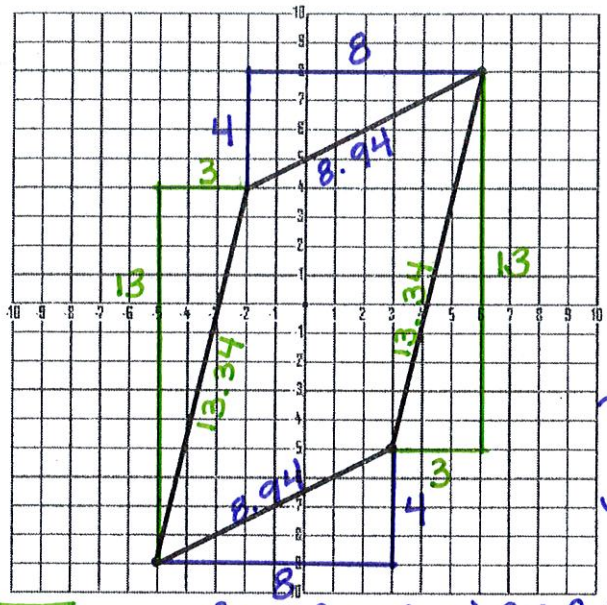


$a^2 + b^2 = c^2$
$6^2 + 7^2 = c^2$
$36 + 49 = c^2$
$85 = c^2$
$\sqrt{85} = c$
$9.22 \approx c$

$a^2 + b^2 = c^2$
$3^2 + 13^2 = c^2$
$9 + 169 = c^2$
$178 = c^2$

$c = \sqrt{178}$
$c \approx 13.34$

Find the perimeter of the parallelogram below.



$a^2 + b^2 = c^2$
$4^2 + 8^2 = c^2$
$16 + 64 = c^2$
$80 = c^2$
$\sqrt{80} = c$

$c \approx 8.94$

$2(8.94) + 2(13.34) \approx 17.88 + 26.68 \approx 44.56$ units