Tue 10-9-18

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MATH 1314 + MATH 0270
College Algebra with Foundations
Mr. Brice

Mid point formula

$$\text{Midpoint} = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$$

(ex) $(4,5)$ $(10,13)$
x_1 y_1 x_2 y_2

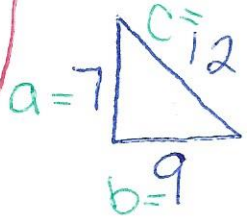
$$\left(\frac{4+10}{2}, \frac{5+13}{2}\right)$$

$$\left(\frac{14}{2}, \frac{18}{2}\right)$$

$$\boxed{(7,6)}$$ Midpoint

① label your points.
② substitute your formula.
③ Solve for the Midpoint.

Prove if its a right triangle



① use the Pythagorean theorem formula
② Solve if you get the same answer on both sides.

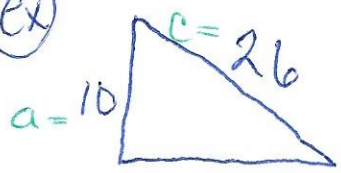
$a^2+b^2=c^2$

$7^2+9^2 \stackrel{?}{=} 12^2$

$49+81 = 144$ not a right triangle.

$130 \neq 144$

(ex)



$a^2+b^2=c^2$

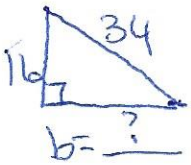
$10^2+24^2 \stackrel{?}{=} 26^2$

$100+576=676$

$676=676$ ✓

This is a right triangle.

Find the missing side of a triangle



$16^2+b^2=34^2$

$256+b^2=1156$

$b^2=1156-256$

$\sqrt{b^2}=\sqrt{900}$ | $b=30$