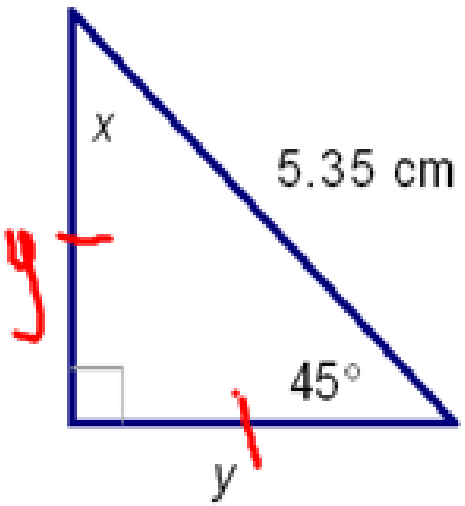
3. Find all unknowns:



$90+45+x=180$

$135+x=180$

$\boxed{x=45°}$

$\therefore$ two angles same = isosceles $\triangle$

$\therefore$ two sides opposite those angles must also be equal

$y^2+y^2=5.35^2$

$2y^2=28.6225$

$\frac{2y^2}{2}=\frac{28.6225}{2}$

$y^2=14.31125$

$y=\pm\sqrt{14.31125}$

$y>0$

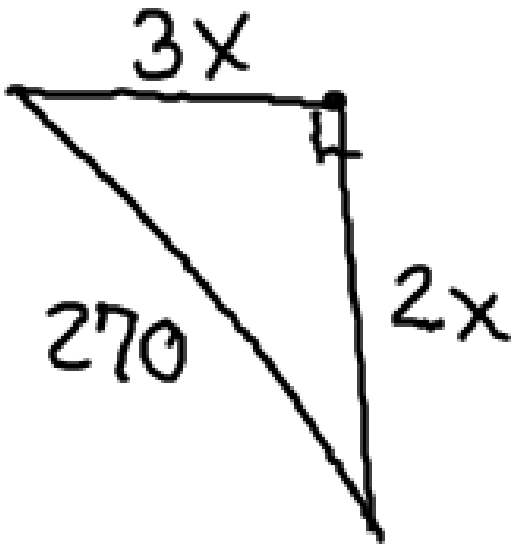
$y=\sqrt{14.31125}$

$\boxed{y=3.78\text{cm}}$

4. Two cars start from the same intersection with one traveling south while the other travels west, going 1.5 times faster. If after 2 hours they are 270 km apart, how fast was each car traveling?

x = speed of car 1

$1.5x$ = speed of car 2



$(3x)^2 + (2x)^2 = 270^2$

$9x^2 + 4x^2 = 72900$

$13x^2 = 72900$

$x^2 = 5607.6923$

$x = \pm\sqrt{5607.6923}$

$2x > 0$

$x > 0$

$x = \sqrt{5607.6923}$

$x \approx 74.88 \text{ km/h}$ car 1

$1.5x = 74.88 \times 1.5 = 112.33 \text{ km/h}$ for car 2