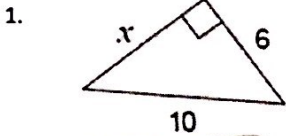


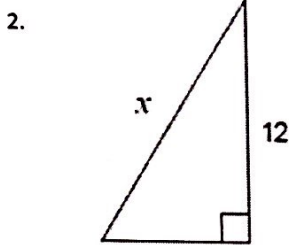
Day 1: Solving Right Triangles

Solve for the missing side by using pythagorean theorem.



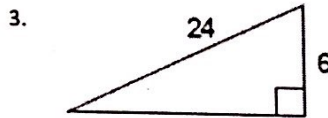
$$x = \sqrt{10^2 - 6^2}$$

$$x = \sqrt{8} = 2\sqrt{2}$$



$$x = \sqrt{12^2 + 9^2}$$

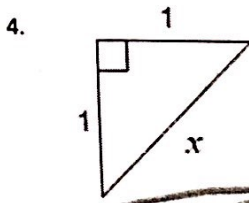
$$x = 15$$



$$24^2 = 6^2 + x^2$$

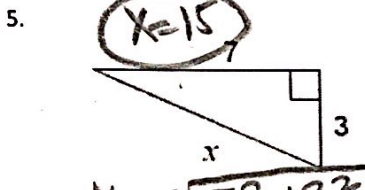
$$x = \sqrt{24^2 - 6^2}$$

$$x = 6\sqrt{15}$$



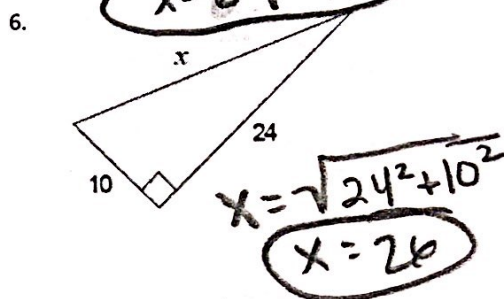
$$x = \sqrt{1^2 + 1^2}$$

$$x = \sqrt{2}$$



$$x = \sqrt{7^2 + 3^2}$$

$$x = \sqrt{58}$$



$$x = \sqrt{24^2 - 10^2}$$

$$x = 26$$

5. Michael is walking around a crater in the center of Heroville. The crater is 5 km long and 7 miles wide.

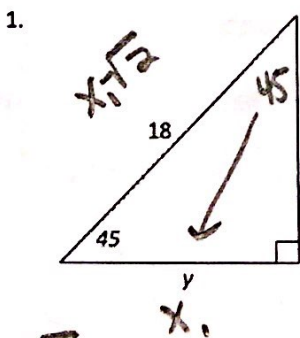
a. How far would Michael have to walk to walk from one corner of the crater to the opposite corner of the crater along the outside of the crater?

$$5 + 7 = 12 \text{ miles}$$

b. Captain Pythagoras has the ability to fly. How far would Captain Pythagoras fly if he were to fly from one corner of the crater to the opposite corner of the crater?

$$x = \sqrt{5^2 + 7^2} = \sqrt{74} = 8.602 \text{ miles}$$

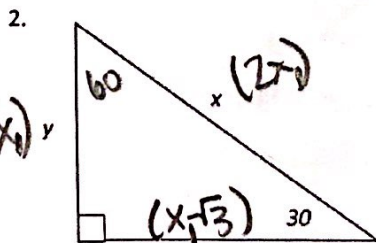
Solve for x and y using special right triangles:



$$18 = x\sqrt{2}$$

$$x = \frac{18}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{18\sqrt{2}}{2} = 9\sqrt{2}$$

$$x = y = 9\sqrt{2}$$



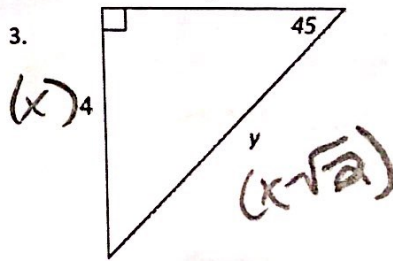
$$9 = \frac{x\sqrt{3}}{\sqrt{3}}$$

$$x = \frac{9 \cdot \sqrt{3}}{\sqrt{3}} = \frac{9\sqrt{3}}{3}$$

$$x = 3\sqrt{3}$$

$$y = 3\sqrt{3}$$

$$x = 6\sqrt{3}$$



$$x = 45\sqrt{2}$$

$$y = 45\sqrt{2}$$