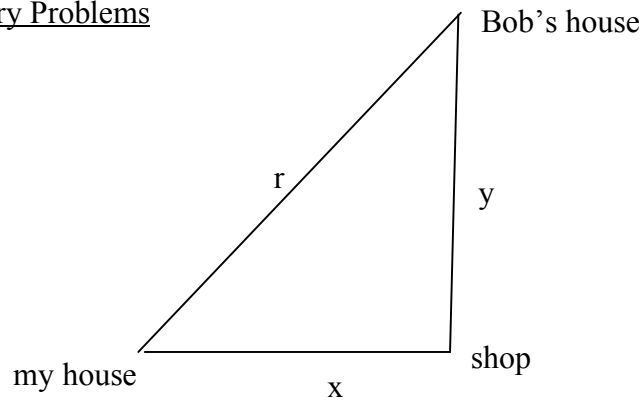


Trigonometry Problems

Ex 1.



It takes 10 mins to walk to Bob's house and 6 mins to walk to the shop.
How much longer will it take to walk to Bob's house via the shop?

by Pythagoras:

$$r = \sqrt{x^2 + y^2}$$

$$x^2 + y^2 = r^2$$

$$x^2 = r^2 - y^2$$

$$x = \sqrt{r^2 - y^2}$$

$$y = \sqrt{r^2 - x^2}$$

$$y = \sqrt{r^2 - x^2}$$

$$= \sqrt{100 - 36}$$

$$= \sqrt{64}$$

$$= 8 \text{ mins}$$

ie it will take $8+6 = 14$ mins

Ex. 2

A road has a gradient of 1: 5. What is the angle in degrees?

$$\tan = \text{opposite} / \text{adjacent} = 1/5 = 0.2$$

$$\tan^{-1} = 11.3^\circ$$

