

$$1. a) \tan \theta = \frac{d}{a}$$

$$\frac{\tan 46^\circ}{1} = \frac{d}{23.8}$$

$$\frac{1.03553}{1} = \frac{d}{23.8}$$

$$d = 24.6 \text{ m}$$

$$b) \text{ depression} = \text{elevation}$$

$$\cos \theta = \frac{a}{h}$$

$$\frac{\cos 53^\circ}{1} = \frac{d}{169}$$

$$\frac{0.6018}{1} = \frac{d}{169}$$

$$d = 101.7 \text{ m}$$

$$2. \sin \theta = \frac{a}{h}$$

$$\frac{\sin 76^\circ}{1} = \frac{x}{96}$$

$$\frac{0.9703}{1} = \frac{x}{96}$$

$$x = 93.1 \text{ m}$$

$$3. \tan \theta = \frac{a}{b}$$

$$\frac{\tan 28^\circ}{1} = \frac{x}{130}$$

$$\frac{0.5317}{1} = \frac{x}{130}$$

$$x = 69.1 \text{ m}$$

$$2. \quad \sin \theta = \frac{o}{h}$$

$$\frac{\sin 76^\circ}{1} = \frac{x}{96}$$

$$\frac{0.9703}{1} = \frac{x}{96}$$

$$x = 93.1 \text{ m}$$

$$3. \quad \tan \theta = \frac{o}{a}$$

$$\frac{\tan 28^\circ}{1} = \frac{x}{130}$$

$$\frac{0.5317}{1} = \frac{x}{130}$$

$$x = 69.1 \text{ m}$$

$$4. \quad \tan \theta = \frac{o}{a}$$

$$\frac{\tan 28^\circ}{1} = \frac{123.5}{d}$$

$$\frac{0.5317}{1} = \frac{123.5}{d}$$

$$\frac{0.5317d}{0.5317} = \frac{123.5}{0.5317}$$

$$d = 232.3 \text{ m}$$

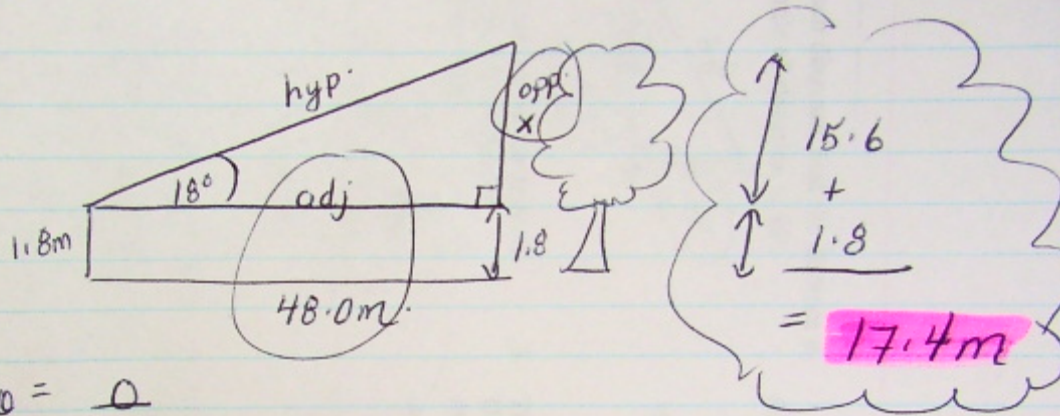
$$5. \quad \tan \theta = \frac{o}{a}$$

$$\frac{\tan 59^\circ}{1} = \frac{x}{1.2}$$

$$\frac{1.6643}{1} = \frac{x}{1.2}$$

$$x = 2.0 \text{ km}$$

6.

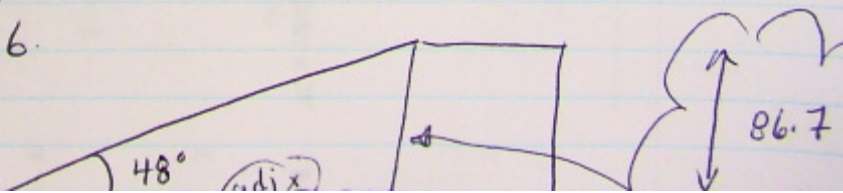


$$\tan \theta = \frac{o}{a}$$

$$\frac{\tan 18^\circ}{1} = \frac{x}{48}$$

$$\frac{0.3249}{1} = \frac{x}{48}$$

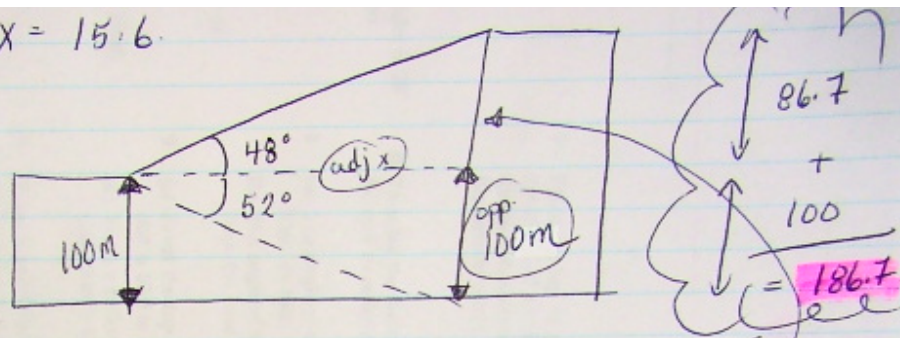
$$x = 15.6$$



7

7.

$x = 15.6$



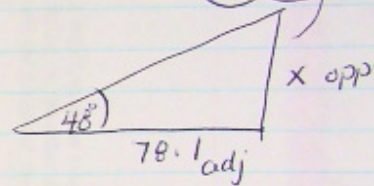
$\tan \theta = \frac{o}{a}$

$\tan 52^\circ = \frac{100}{x}$

$\frac{1.2799}{1} = \frac{100}{x}$

$\frac{1.2799x}{1.2799} = \frac{100}{1.2799}$

$x = 78.1$



$\tan \theta = \frac{o}{a}$

$\tan 48^\circ = \frac{x}{78.1}$

$\frac{1.1106}{1} = \frac{x}{78.1}$

$x = 86.7m$