

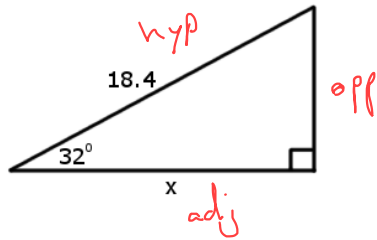
Name: _____

Date: _____

Trigonometry - 05

Practice Test 01

1. Find the value of the missing side length marked 'x'
Round your answer to one decimal place.



~~S~~/~~O~~/~~A~~ (~~A~~/~~H~~) ~~T~~/~~O~~/~~A~~

$$\frac{\cos}{1} = \frac{\text{adj}}{\text{hyp}}$$

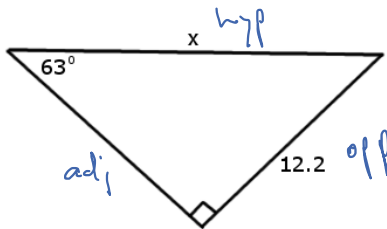
$$\frac{\cos 32}{1} = \frac{x}{18.4}$$

$$\frac{18.4(\cos 32)}{1} = x$$

$$15.6 = x$$

Answer: 15.6 units

2. Find the value of the missing side length marked 'x'
Round your answer to one decimal place.



~~S~~/~~O~~/~~A~~ (~~A~~/~~H~~) ~~T~~/~~O~~/~~A~~

$$\frac{\sin}{1} = \frac{\text{opp}}{\text{hyp}}$$

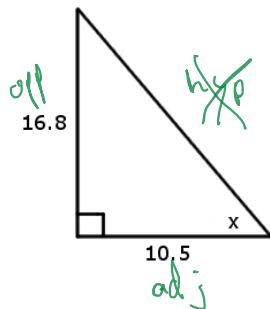
$$\frac{\sin 63}{1} = \frac{12.2}{x}$$

$$\frac{1(12.2)}{\sin 63}$$

$$13.7 = x$$

Answer: 13.7 units

3. Find the value of the missing angle marked 'x'
Round your answer to one decimal place.



~~S~~/~~O~~/~~A~~ (~~A~~/~~H~~) ~~T~~/~~O~~/~~A~~

$$\frac{\tan x}{1} = \frac{\text{opp}}{\text{adj}}$$

$$\frac{\tan x}{1} = \frac{16.8}{10.5}$$

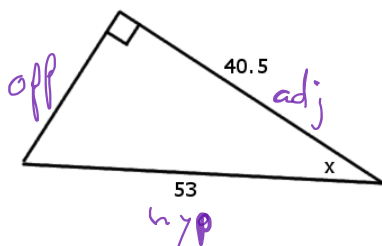
$$\frac{(1) 16.8}{10.5} = \tan x$$

$$1.6 = \tan x$$

$$58 = x$$

Answer: 58 °

4. Find the value of the missing angle marked 'x'
Round your answer to one decimal place.



~~S~~/~~O~~/~~A~~ (~~A~~/~~H~~) ~~T~~/~~O~~/~~A~~

$$\frac{\cos x}{1} = \frac{\text{adj}}{\text{hyp}}$$

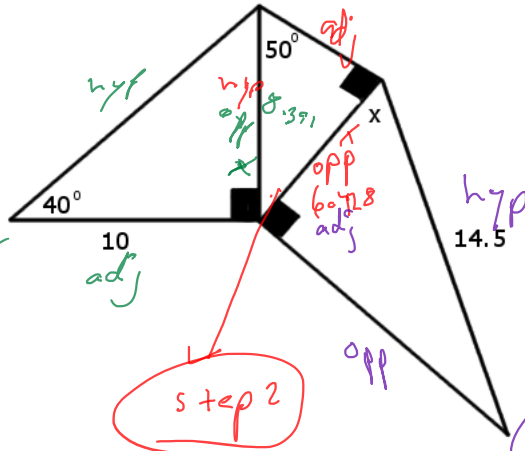
$$\frac{\cos x}{1} = \frac{40.5}{53}$$

$$\frac{(1) 40.5}{53} = \cos x$$

$$40.2 = x$$

Answer: 40.2 °

5. Find the value of the missing angle marked 'x'
Round your answer to the nearest integer (whole number).



Step 1

~~S~~/~~H~~ ~~C~~/~~A~~ ~~T~~/~~A~~

$$\frac{\tan}{1} = \frac{\text{opp}}{\text{adj}}$$

$$\frac{\tan 40}{1} = \frac{x}{10}$$

$$\frac{\tan 40(10)}{1} = x$$

$$8.391 = x$$

Step 2

~~S~~/~~H~~ ~~C~~/~~A~~ ~~T~~/~~A~~

$$\frac{\sin}{1} = \frac{\text{opp}}{\text{hyp}}$$

$$\frac{\sin 50}{1} = \frac{x}{8.391}$$

$$\frac{\sin 50(8.391)}{1} = x$$

$$6.428 = x$$

Step 3

~~S~~/~~H~~ ~~C~~/~~A~~ ~~T~~/~~A~~

$$\frac{\cos}{1} = \frac{\text{adj}}{\text{hyp}}$$

$$\frac{\cos x}{1} = \frac{6.428}{14.5}$$

$$(1) \frac{6.428}{14.5} = \cos x$$

$$0.443... = \cos x$$

$$63.7 = x$$

~~Winkil~~

Answer: 64 °

6. A pilot is travelling at a height of 10.5 km above level ground. The pilot looks down at an angle of depression of 9° and spots the runway. **As measured along the ground, how many kilometers away is the plane from the runway?** Round your answer to one decimal place.

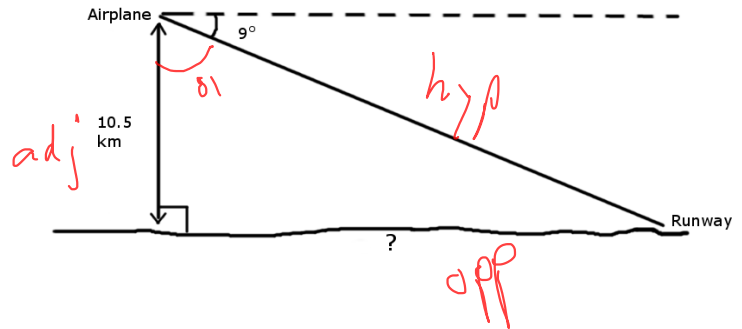
$$\cancel{SOA} \quad \cancel{CA} \quad \cancel{TO} \quad \cancel{A}$$

$$\frac{\tan}{1} = \frac{\text{opp}}{\text{adj}}$$

$$\frac{\tan 81}{1} = \frac{x}{10.5}$$

$$\frac{\tan 81 (10.5)}{1} = x$$

$$66.3$$

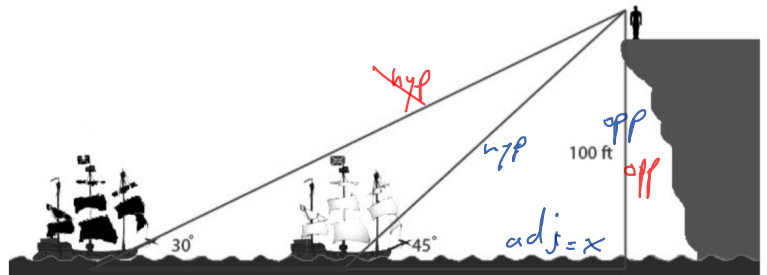


Answer: The plane is 66.3 km away from the runway

7. Capt. Jack Sparrow is watching the Black Pearl chase the Flying Dutchman from a 100-foot tall cliff. The angle of elevation from the Pearl to Captain Jack is 30° . The angle of elevation from the Dutchman is 45° .

How far apart are the two boats?

Round your answer to one decimal place.



$$\cancel{SOA} \quad \cancel{CA} \quad \cancel{TO} \quad \cancel{A}$$

$$\frac{\tan}{1} = \frac{\text{opp}}{\text{adj}}$$

$$\frac{\tan 30}{1} = \frac{100}{x}$$

$$\frac{100(1)}{\tan 30} = x$$

$$173.2 = x$$

$$173.2 - 100 = 73.2$$

$$\cancel{SOA} \quad \cancel{CA} \quad \cancel{TO} \quad \cancel{A}$$

$$\frac{\tan}{1} = \frac{\text{opp}}{\text{adj}}$$

$$\frac{\tan 45}{1} = \frac{100}{x}$$

$$\frac{(1)100}{\tan 45} = x$$

$$100 = x$$

Answer: The two boats are 73.2 feet apart.