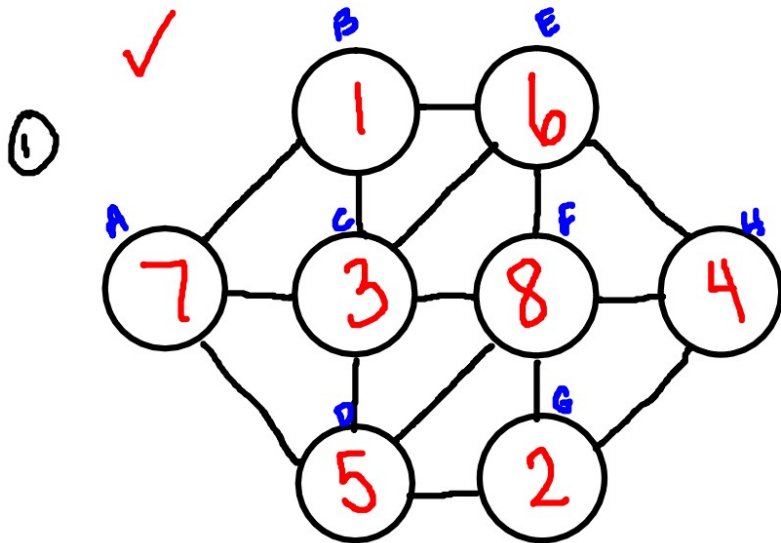
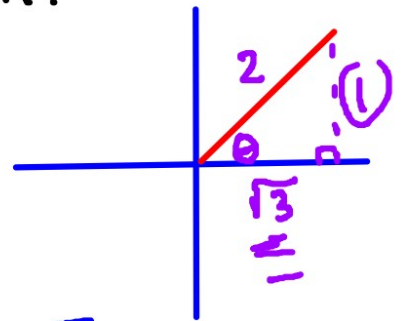


## Drill



Put the #'s 1-8  
in the circles  
so no two consecutive  
#'s touch.



② If  $\sin \theta = \frac{1}{2} \frac{O}{A}$  and  
then what is  $\tan \theta$  ? =

$$\cos \theta = \frac{\sqrt{3}}{2} \frac{a}{h}$$

$$\frac{\sqrt{3}}{3} \Rightarrow \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

Unit #2    (\*) Trig Identities    (\*)

(\*) sec  $\theta = \frac{1}{\cos \theta}$

(\*)  $\tan \theta = \frac{\sin \theta}{\cos \theta}$

(\*) csc  $\theta = \frac{1}{\sin \theta}$

(\*)  $\cot \theta = \frac{\cos \theta}{\sin \theta}$

(\*)  $\cot \theta = \frac{1}{\tan \theta}$

VERIFY:     $\sin x \cdot \cot x = \cos x$

$\cancel{\sin x} \cdot \frac{\cos x}{\cancel{\sin x}} = \cos x$

✓     $\cos x = \cos x$

Verify:

$$\csc x \cdot \tan x = \sec x$$

$$\textcircled{1} \quad \frac{1}{\cancel{\sin x}} \cdot \frac{\cancel{\sin x}}{\cos x} = \sec x$$

$$\textcircled{2} \quad \frac{1}{\cos x} = \sec x$$

$$\textcircled{3} \quad \sec x = \sec x \quad \checkmark$$

Verify:  $(\tan x) = \sin x$

$$\textcircled{1} \frac{\left(\frac{\sin x}{\cos x}\right)}{\left(\frac{1}{\cos x}\right)} = \sin x$$

$$\textcircled{2} \frac{\sin x}{\cancel{\cos x}} \cdot \frac{\cancel{\cos x}}{1} = \sin x$$

$$\textcircled{3} \sin x = \sin x \quad \checkmark$$

Verify:

$$\sec x \cdot \cot x = \csc x$$

$$\textcircled{1} \quad \frac{1}{\cancel{\cos x}} \cdot \frac{\cancel{\cos x}}{\sin x} = \csc x$$

$$\textcircled{2} \quad \frac{1}{\sin x} = \csc x$$

$$\textcircled{3} \quad \csc x = \csc x \quad \checkmark$$

Verify:  $\tan x \cdot \sec x \cdot \csc x = \sec^2 x$

$$\textcircled{1} \quad \frac{\cancel{\sin x}}{\underline{\underline{\cos x}}} \cdot \frac{1}{\underline{\underline{\cos x}}} \cdot \frac{1}{\cancel{\sin x}} = \sec^2 x$$

$$\textcircled{2} \quad \frac{1}{\cos^2 x} = \sec^2 x$$

$$\textcircled{3} \quad \sec^2 x = \sec^2 x \quad \checkmark$$

Verify:

$$\sin x \cot x \sec x = 1$$



①

$$\frac{\sin x}{1} \cdot \frac{\cos x}{\sin x} \cdot \frac{1}{\cos x} = 1$$

②

$$1 = 1 \quad \checkmark$$

Verify:

$$\frac{\sin x + \cos x}{\sin x \cos x} = \sec x + \csc x$$



$$= \frac{\sin x}{\sin x} \cdot \frac{1}{\cos x} + \frac{1}{\sin x} \cdot \frac{\cos x}{\cos x}$$

$$= \frac{\sin x}{\sin x \cos x} + \frac{\cos x}{\sin x \cos x}$$

$$\checkmark \frac{\sin x + \cos x}{\sin x \cos x} = \frac{\sin x + \cos x}{\sin x \cos x}$$