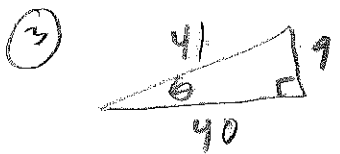
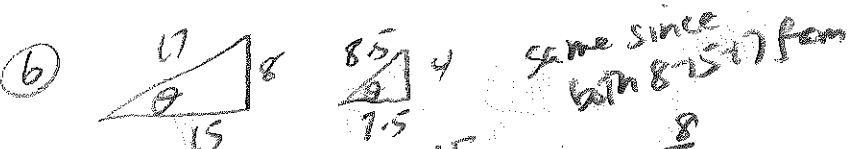


§ 43 Day 1 prob #3, 6, 10, 17-22, 27, 28, 33-35, 59, 60



$$\begin{aligned} \sin &= \frac{9}{41} & \cos &= \frac{40}{41} & \tan &= \frac{9}{40} \\ \csc &= \frac{41}{9} & \sec &= \frac{41}{40} & \cot &= \frac{40}{9} \end{aligned}$$



$$\begin{aligned} \sin &= \frac{8}{17} & \cos &= \frac{15}{17} & \tan &= \frac{8}{15} \\ \csc &= \frac{17}{8} & \sec &= \frac{17}{15} & \cot &= \frac{15}{8} \end{aligned}$$

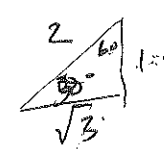
(10)  $\cos = \frac{7}{5}$



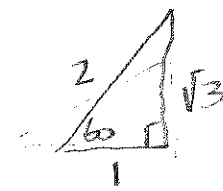
$$\begin{aligned} 5^2 + b^2 &= 7^2 \\ 25 + b^2 &= 49 \\ b^2 &= 24 \\ b &= \sqrt{24} = 2\sqrt{6} \end{aligned}$$

$$\begin{aligned} \sin &= \frac{2\sqrt{6}}{7} & \cos &= \frac{5}{7} & \tan &= \frac{2\sqrt{6}}{5} \\ \csc &= \frac{7}{2\sqrt{6}} & \sec &= \frac{7}{5} & \cot &= \frac{5}{2\sqrt{6}} \end{aligned}$$

	deg	rad	val
(17) sin	30°	$\frac{\pi}{6}$	$\frac{1}{2}$
(18) cos	45°	$\frac{\pi}{4}$	$\frac{\sqrt{2}}{2}$
(19) tan	60°	$\frac{\pi}{3}$	$\sqrt{3}$
(20) sec	45°	$\frac{\pi}{4}$	$\sqrt{2}$
(21) cot	60°	$\frac{\pi}{3}$	$\frac{\sqrt{3}}{3}$
(22) csc	45°	$\frac{\pi}{4}$	$\sqrt{2}$



27)  $\sin 60^\circ = \frac{\sqrt{3}}{2}$ ,  $\cos 60^\circ = \frac{1}{2}$



a)  $\tan 60^\circ = \sqrt{3}$

b)  $\sin 30^\circ = \frac{1}{2}$

c)  $\cos 30^\circ = \frac{\sqrt{3}}{2}$

d)  $\cot 60^\circ = \frac{1}{\tan 60^\circ} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

28)  $\sin 30^\circ = \frac{1}{2}$ ,  $\tan 30^\circ = \frac{\sqrt{3}}{3}$

a)  $\csc 30^\circ = \frac{1}{\sin 30^\circ} = \frac{1}{\frac{1}{2}} = 2$

b)  $\cot 60^\circ = \frac{1}{\tan 60^\circ} = \frac{1}{\sqrt{3}} = \frac{3}{\sqrt{3}} = \frac{3\sqrt{3}}{3} = \sqrt{3}$

c)  $\cos 30^\circ = \frac{\sin 30^\circ}{\tan 30^\circ} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{3}} = \frac{3}{2\sqrt{3}} = \frac{\sqrt{3}}{2}$

$\tan \theta = \frac{\sin \theta}{\cos \theta}$       $\cos \theta = \frac{\sin \theta}{\tan \theta}$

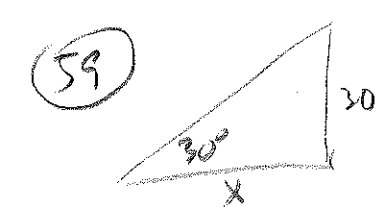
33)  $\tan \theta \cot \theta = 1$

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

34)  $\cos \theta \sec \theta$

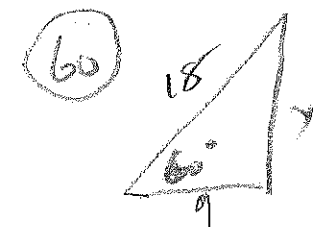
$\frac{1}{\sec \theta} (\sec \theta) = 1$

35)  $\tan x \cos x = \left( \frac{\sin x}{\cos x} \right) \cos x = \sin x$



$\tan 30^\circ = \frac{30}{x}$   
 $\frac{1}{\sqrt{3}} = \frac{30}{x}$

$x = 30\sqrt{3}$



$\sin 60^\circ = \frac{y}{18}$

$\frac{\sqrt{3}}{2} = \frac{y}{18}$

$2y = 18\sqrt{3}$   
 $y = 9\sqrt{3}$