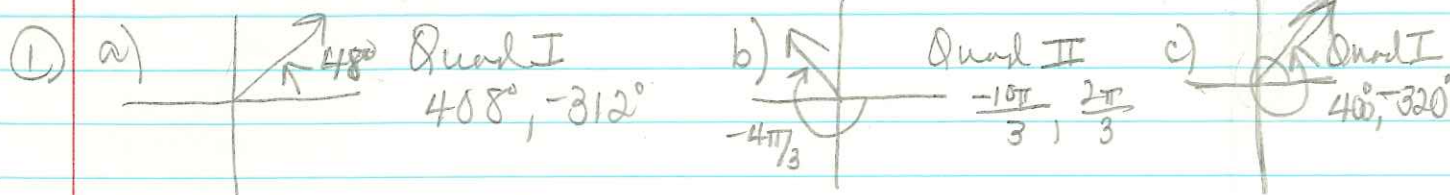


Unit 5 Test Review



② a) $\frac{200}{180} = \frac{x}{\pi}$
 $x = \frac{10\pi}{9} \approx 3.491$

b) $\frac{-25}{180} = \frac{x}{\pi}$
 $x = \frac{-5\pi}{36} \approx -436$

c) $\frac{116}{180} = \frac{x}{\pi}$
 $x = \frac{29\pi}{45} \approx 2.08$

③ a) $\frac{x}{180} = \frac{3\pi}{4}$
 $x = 108^\circ$

b) $\frac{x}{180} = \frac{-11\pi}{12}$
 $x = -165^\circ$

④ a) $86^\circ 15'$ b) $-183^\circ 42' 58''$


⑤ a) 21.3° b) 203.09°

⑥ a) $r = 5''$ $\theta = 60^\circ$
 $A = r\theta$ (θ must be in radians)
 $A = 5\left(\frac{\pi}{3}\right)$
 $A = \frac{5\pi}{3}$ inches
 ≈ 5.24 in.

b) $r = 17''$ $A = 25.5''$
 $A = r\theta$
 $25.5 = 17(\theta)$
 $\theta = 1.5$ radians

⑦ See your worksheets

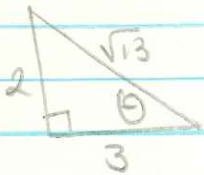
⑧+⑨ Know relationships between legs and hypotenuse,

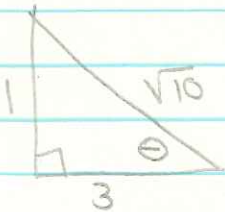
⑩ 

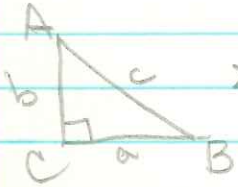
$6^2 + 3^2 = c^2$
 $45 = c^2$
 $3\sqrt{5} = c$

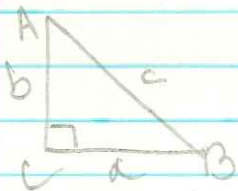
$\sin \theta = \frac{2\sqrt{5}}{5}$
 $\cos \theta = \frac{\sqrt{5}}{5}$
 $\tan \theta = 2$

$\csc \theta = \frac{\sqrt{5}}{2}$
 $\sec \theta = \sqrt{5}$
 $\cot \theta = \frac{1}{2}$

⑪ $\tan \theta = \frac{2}{3}$  $\sin \theta = \frac{2\sqrt{13}}{13}$ $\csc \theta = \frac{\sqrt{13}}{2}$
 $\cos \theta = \frac{3\sqrt{13}}{13}$ $\sec \theta = \frac{\sqrt{13}}{3}$
 $\tan \theta = \frac{2}{3}$ $\cot \theta = \frac{3}{2}$

⑫  $\cos \theta = \frac{3\sqrt{10}}{10}$ $\tan \theta = \frac{1}{3}$
 a) $\cot \theta = 3$ b) $\tan(\frac{\pi}{2} - \theta) = \cot \theta = 3$
 c) $\cot(90^\circ - \theta) = \tan \theta = \frac{1}{3}$ d) $\sec \theta = \frac{\sqrt{10}}{3}$
 e) $\csc(90^\circ - \theta) = \sec \theta = \frac{\sqrt{10}}{3}$ f) $\sin(90^\circ - \theta) = \cos \theta = \frac{3\sqrt{10}}{10}$

⑬ a)  $\angle B = 28^\circ 15'$ $c = 15$ $\angle A = 61^\circ 45'$
 $\sin 28^\circ 15' = \frac{b}{15}$ $a = 13.2$ $b = 7.1$ $\cos 28^\circ 15' = \frac{a}{15}$

b)  $a = 6$ $b = 5$ $\angle A = 50^\circ 12'$
 $\angle B = 39^\circ 48'$ $c = 7.8$
 $\tan A = \frac{6}{5}$
 $\tan^{-1}\left(\frac{6}{5}\right) = A$

⑭ —