

$$1. \quad 15^\circ \cdot \frac{\pi}{180} = \frac{15\pi}{180} = \boxed{\frac{\pi}{12}}$$

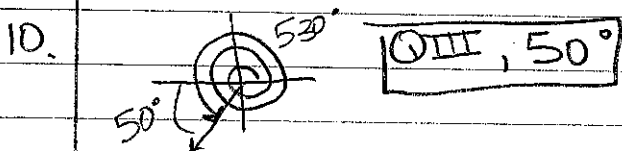
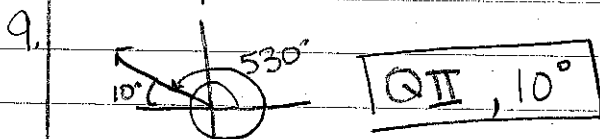
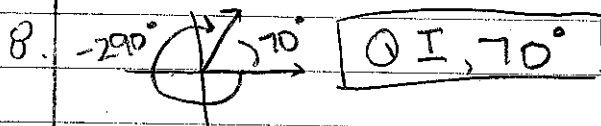
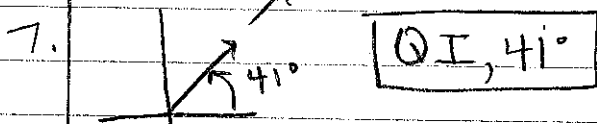
$$2. \quad -105^\circ \cdot \frac{\pi}{180} = \frac{-105\pi}{180} = \boxed{-\frac{7\pi}{12}}$$

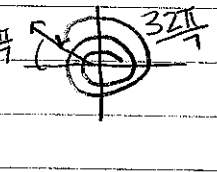
$$3. \quad 540^\circ \cdot \frac{\pi}{180} = \frac{54\pi}{18} = \boxed{3\pi}$$

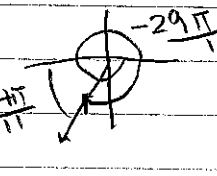
$$4. \quad -\frac{7\pi}{9} \cdot \frac{180}{\pi} = \boxed{-140^\circ}$$

$$5. \quad \frac{11\pi}{8} \cdot \frac{180}{\pi} = \frac{3960}{8} = \boxed{396^\circ}$$

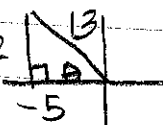
$$6. \quad 8\pi \cdot \frac{180}{\pi} = \boxed{1440^\circ}$$



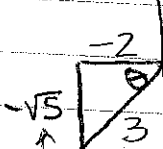
11.   $\frac{32\pi}{7}$   $\frac{32\pi}{7} = 4\frac{4}{7}\pi$   $\boxed{\text{Q II}}$   
 $\pi - \frac{4}{7}\pi = \frac{7}{7}\pi - \frac{4}{7}\pi = \frac{3\pi}{7}$

12.   $\frac{-29\pi}{11}$   $\frac{-29\pi}{11} = -2\frac{7}{11}\pi$   $\boxed{\text{Q III}}$   
 $\pi - \frac{7}{11}\pi = \frac{11\pi}{11} - \frac{7\pi}{11} = \frac{4\pi}{11}$

13.  $\sin \theta = \frac{12}{13}$   $\cos \theta = \frac{a}{n} = \frac{-5}{13}$

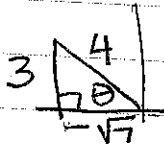


14.  $\sec \theta = \frac{3}{-2}$   $\tan \theta = \frac{a}{b} = \frac{-\sqrt{5}}{-2} = \frac{\sqrt{5}}{2}$



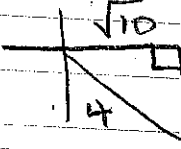
$(-2)^2 + b^2 = 3^2$   
 $4 + b^2 = 9$   
 $b^2 = 5$   
 $b = \sqrt{5}$

15.  $\csc \theta = \frac{4}{3}$   $\cos \theta = \frac{a}{n} = \frac{-\sqrt{7}}{4}$



$3^2 + b^2 = 4^2$   
 $9 + b^2 = 16$   
 $b^2 = 7$   
 $b = \sqrt{7}$

16.  $\cos \theta = \frac{\sqrt{10}}{4}$   $\cot \theta = \frac{a}{b} = \frac{-\sqrt{10} \cdot \sqrt{6}}{-\sqrt{6} \cdot \sqrt{6}} = \frac{-\sqrt{60}}{6} = \frac{-2\sqrt{15}}{3}$

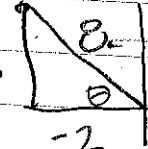


$\sqrt{10}^2 + b^2 = 4^2$   
 $10 + b^2 = 16$   
 $b^2 = 6$   
 $b = \sqrt{6}$

$(-2\sqrt{15})$

$60$   
 $2 \cdot 2 \cdot 3 \cdot 5$

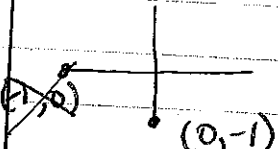
17.  $\csc \theta = \frac{h}{o} = \frac{8}{2\sqrt{15}} = \frac{4 \cdot \sqrt{15}}{\sqrt{15} \cdot \sqrt{15}} = \frac{4\sqrt{15}}{15}$

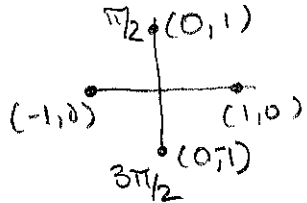


$(2\sqrt{15})^2 + (-2)^2 = c^2$   
 $4(15) + 4 = c^2$   
 $64 = c^2$   
 $8 = c$

18.  $\frac{\text{S}}{\text{T}} = \frac{\text{A}}{\text{C}} = \text{QII}$

19.  $\tan \theta = \frac{y}{x} = \frac{-1}{0} = \text{B} (\tan 270^\circ)$





$(c, s)$   
 $(\sec, \csc)$   
 $\downarrow$   
 X-Value

20.  $\pi/2, 3\pi/2$

21.  $360^\circ - 10^\circ = 350^\circ$

22.  $4\pi + \frac{\pi}{2} + \frac{\pi}{12} = \frac{55\pi}{12}$

23.  $-2\pi - \frac{\pi}{6} = \frac{-13\pi}{6}$

24.  $180^\circ - 150^\circ = 30^\circ$

25.  $\pi - \frac{13\pi}{18} = \frac{5\pi}{18}$

26.  $\frac{13\pi}{12} - \pi = \frac{\pi}{12}$

27.  $\frac{17\pi}{36} + 2\pi + 2\pi = \frac{161\pi}{36} \checkmark$  **yes**

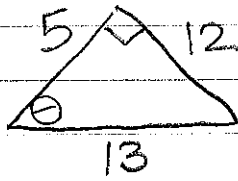
28.  $90^\circ + 360^\circ = 450^\circ \neq$  **no**

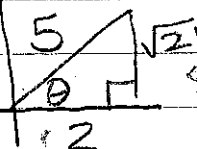
29.  $-435^\circ + 360^\circ + 360^\circ = 285^\circ$

30.  $\frac{11\pi}{3} - 2\pi = \frac{5\pi}{3}$

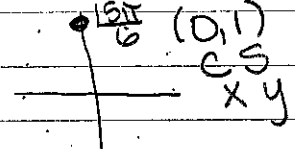
31.  $\frac{-7\pi}{6} + 2\pi = \frac{5\pi}{6}$       $\frac{-7\pi}{6} - 2\pi = \frac{-19\pi}{6}$

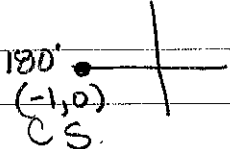
32.  $640^\circ - 360^\circ = 280^\circ$       $280^\circ - 360^\circ = -80^\circ$

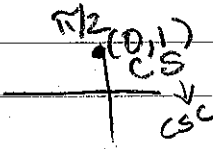
33.   $\sin \theta = \frac{12}{13}$   $\csc \theta = \frac{13}{12}$   
 $\cos \theta = \frac{5}{13}$   $\sec \theta = \frac{13}{5}$   
 $\tan \theta = \frac{12}{5}$   $\cot \theta = \frac{5}{12}$

34.   $\cos \theta = \frac{2}{5}$   $2^2 + b^2 = 5^2$   
 $4 + b^2 = 25$   
 $b^2 = 21$   
 $b = \sqrt{21}$

$\sin \theta = \frac{\sqrt{21}}{5}$   $\csc = \frac{5}{\sqrt{21}} = \frac{5\sqrt{21}}{21}$   
 $\tan \theta = \frac{\sqrt{21}}{2}$   $\sec \theta = \frac{5}{2}$   $\cot \theta = \frac{2}{\sqrt{21}} = \frac{2\sqrt{21}}{21}$

35.   $\tan \theta = \frac{y}{x} = \frac{\sin}{\cos} = \frac{1}{0}$  undefined

36.   $\boxed{0}$

37.   $\boxed{1}$