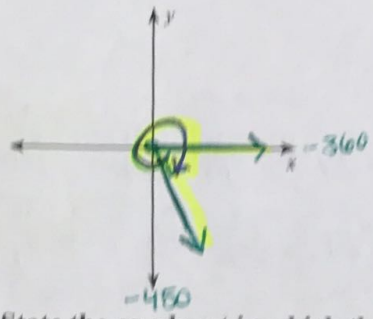
Algebra 2 Name_____ ID: 1

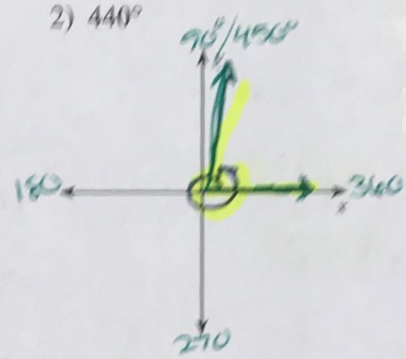
Assignment Unit 3 Intro to Trig Quiz Review Date_____ Period____

Draw an angle with the given measure in standard position.

1) $-430°$



2) $440°$



State the quadrant in which the terminal side of each angle lies.

3) $-\frac{4\pi}{3}$

$-\frac{2\pi}{3} = -\pi$

II

4) $365°$

I

Find a positive and a negative coterminal angle for each given angle.

5) $250°$

$250° + 360° = 610°$

$250° - 360° = -110°$

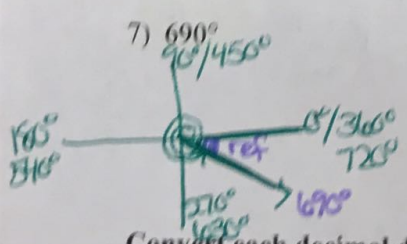
6) $-\frac{5\pi}{3}$

$-\frac{5\pi}{3} + 2\pi = -\frac{5\pi}{3} + \frac{6\pi}{3} = \frac{\pi}{3}$

$-\frac{5\pi}{3} - 2\pi = -\frac{5\pi}{3} - \frac{6\pi}{3} = -\frac{11\pi}{3}$

Find the reference angle.

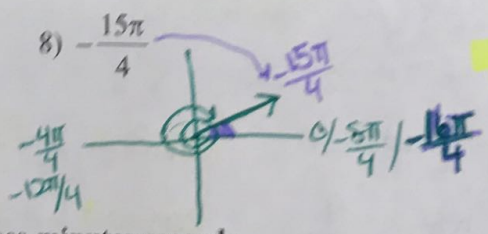
7) $690°$



$720° - 690°$

$30°$

8) $-\frac{15\pi}{4}$



$\frac{\pi}{4}$

Convert each decimal degree measure into degrees-minutes-seconds.

9) $102.2275°$

$102°13'39''$

10) $223.24°$

$223°14'24''$

Convert each degrees-minutes-seconds into decimal degrees.

11) 356° 18' 45"

$356.3125°$

12) 32° 26' 51"

$32.4475°$

Find the complement and supplement

13) 43°

comp: $90° - 43° = 47°$

supp: $180 - 43 = 137°$

14) $\pi/7$

comp: $\pi/2 - \pi/7 = \frac{7\pi}{14} - \frac{2\pi}{14} = \frac{5\pi}{14}$

supp: $\pi - \pi/7 = \frac{7\pi}{7} - \frac{\pi}{7} = \frac{6\pi}{7}$

Convert each degree measure into radians and each radian measure into degrees.

15) $60° \cdot \frac{\pi}{180°} = \frac{60\pi}{180} = \frac{\pi}{3}$

16) $\frac{7\pi}{4} \cdot \frac{180°}{\pi} = \frac{1260\pi}{4\pi} = 315°$

17) $-\frac{29\pi}{6} \cdot \frac{180°}{\pi} = \frac{-5220\pi}{6\pi} = -870°$

* Also Know how to convert radians that aren't written in terms of π to degrees!

ex: $4.61 \cdot \frac{180°}{\pi} = \frac{829.8°}{\pi} = 264.13°$

Find the length of each arc. S = radius · radians

18) $r = 9$ km, $\theta = \frac{3\pi}{2}$

$S = 9\left(\frac{3\pi}{2}\right) = \frac{27\pi}{2}$ Km

19) $r = 15$ cm, $\theta = 210°$

$\theta = 210° \cdot \frac{\pi}{180°} = \frac{210\pi}{180} = \frac{7\pi}{6}$

$S = 15\left(\frac{7\pi}{6}\right) = \frac{105\pi}{6} = \frac{35\pi}{2}$

Find the value of the 6 trig functions.

20) tan θ

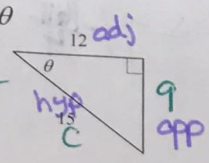
$a^2 + b^2 = c^2$

$a^2 + (12)^2 = (15)^2$

$a^2 + 144 = 225$

$a^2 = 81$

$a = 9$



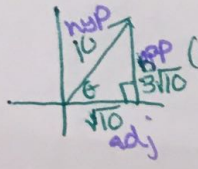
$\sin\theta = \frac{9}{15} = \frac{3}{5}$ $\csc\theta = \frac{5}{3}$

$\cos\theta = \frac{12}{15} = \frac{4}{5}$ $\sec\theta = \frac{5}{4}$

$\tan\theta = \frac{9}{12} = \frac{3}{4}$ $\cot\theta = \frac{4}{3}$

Find the value of the other 5 trig functions.

21) If $\cos\theta = \frac{\sqrt{10}}{10}$ adj / hyp



$(\sqrt{10})^2 + b^2 = 10^2$

$10 + b^2 = 100$

$b^2 = 90$

$b = \sqrt{90}$

$b = 3\sqrt{10}$

$\sin\theta = \frac{3\sqrt{10}}{10}$

$\cos\theta = \frac{\sqrt{10}}{10}$

$\tan\theta = \frac{3\sqrt{10}}{\sqrt{10}} = 3 \to \frac{3}{1}$

$\csc\theta = \frac{10}{3\sqrt{10}} \cdot \frac{\sqrt{10}}{\sqrt{10}} = \frac{10\sqrt{10}}{3 \cdot 10} = \frac{10\sqrt{10}}{30} = \frac{\sqrt{10}}{3}$

$\sec\theta = \frac{10}{\sqrt{10}} \cdot \frac{\sqrt{10}}{\sqrt{10}} = \frac{10\sqrt{10}}{10} = \sqrt{10}$

$\cot\theta = \frac{1}{3}$