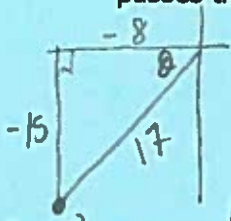


6-1 to 6-3 Quiz Review

Part I: Work these problems without the calculator.

1. Find the following trigonometric functions of the angle in standard position whose terminal side passes through $(-8, -15)$.



a) $\sin \theta = \frac{-15}{17}$

b) $\sec \theta = -\frac{17}{8}$

c) $\cot \theta = \frac{8}{15}$

2. Find the exact values of the angles:

a. $\cos \frac{-5\pi}{6}$

$\cos \frac{7\pi}{6}$

$$\frac{-\sqrt{3}}{2}$$

b. $\sin 225^\circ$

$$\frac{-\sqrt{2}}{2}$$

c. $\tan \frac{3\pi}{4}$

$$-1$$

d. $\sec 240^\circ$

$$-2$$

e. $\cos \frac{10\pi}{3}$

$\cos \frac{4\pi}{3}$

$$\frac{-1}{2}$$

f. $\cos \pi$

$$-1$$

g. $\cot -300^\circ$

$\cot 60^\circ$

$$\frac{\sqrt{3}}{3}$$

h. $\csc -225^\circ$

$\csc 135^\circ$

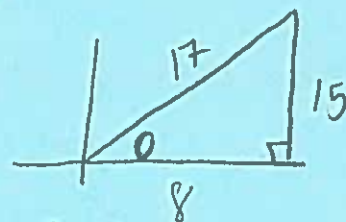
$$\sqrt{2}$$

Part II: You will need the help of a calculator for these problems.

3. Find $\tan \theta$ if $\cos \theta = \frac{8}{17}$ and $\sin \theta > 0$. \rightarrow quad I

$\cos + \sin +$

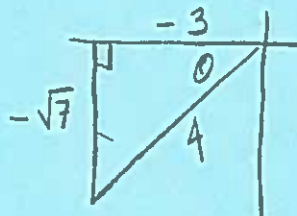
$$\tan \theta = \frac{15}{8}$$



4. Find $\sec \theta$ if $\tan \theta = \frac{\sqrt{7}}{3}$ and $\cos \theta < 0$.

$\tan + \cos - \rightarrow$ quad III

$$\sec \theta = -\frac{4}{3}$$



5. Graph and find the angle of reference:

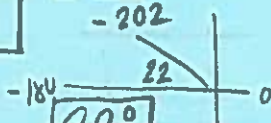
a. 676

$$46^\circ$$

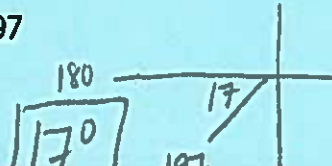
b. -28

$$28^\circ$$

c. -202



d. 197



On 6 and 7 use the right triangle XYZ where $\angle Y$ is the right angle.

6. $z = 13$ and $y = 17$ find measure of side x and $\angle Z$ to the nearest tenth.

$$17^2 = 13^2 + x^2$$

$$289 = 169 + x^2$$

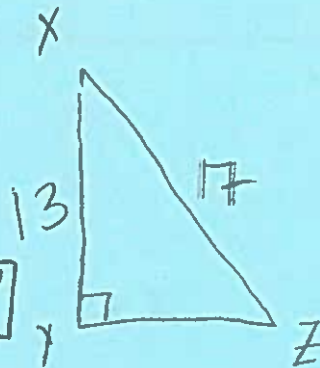
$$169$$

$$x^2 = 120$$

$$x = 11$$

$$\sin^{-1} \frac{13}{17} = z$$

$$z = 49.9^\circ$$



7. $\angle Z = 63.8$ and $x = 25$ find the measure of side y and side z .

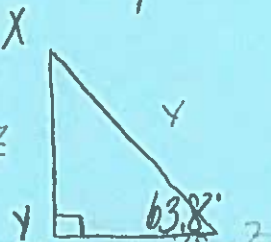
$$90 - 63.8^\circ = 26.2^\circ = x$$

$$\tan 63.8 = \frac{z}{25}$$

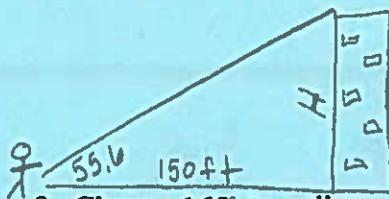
$$25^2 + 50.8^2 = 56.6^2$$

$$z = 50.8$$

$$y = 56.6$$



8. The angle of elevation from an observer on the street to the top of a building is 55.6° . If the observer is 150 ft. from the base of the building, how tall is the building?



$$\tan 55.6^\circ = \frac{H}{150 \text{ ft}}$$

$$H = 219.1 \text{ ft}$$

9. Change 165° to radians.

$$165 \cdot \frac{\pi}{180} = \frac{11\pi}{12}$$

$$\frac{11\pi}{12}$$

10. Change $\frac{7\pi}{10}$ into degrees.

$$\frac{7\pi}{10} \cdot \frac{180}{\pi} = 126^\circ$$

Find one positive and one negative coterminal angle for each

11. $-100^\circ \pm 360^\circ$

$$260^\circ, -460^\circ$$

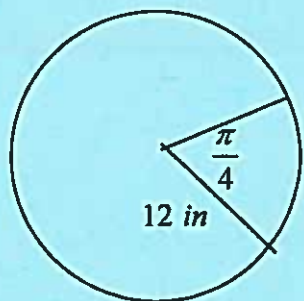
12. $\frac{4\pi}{3} \pm \frac{6\pi}{3}$

$$\frac{10\pi}{3}, -\frac{2\pi}{3}$$

Given the Circle, find the Arc Length and the Area of the Sector.

$$S = r \cdot \theta \quad A = \frac{1}{2} \cdot r^2 \cdot \theta$$

13.



$$S = 3\pi \text{ in} \quad \frac{\pi}{4} \cdot 12$$

$$A = 18\pi \text{ in}^2 \quad \frac{1}{2} \cdot 144 \cdot \frac{\pi}{4}$$