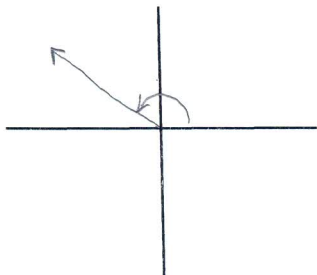
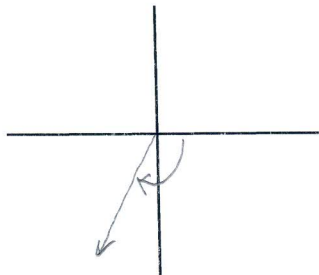


I. Sketch each of the following angles in standard position.

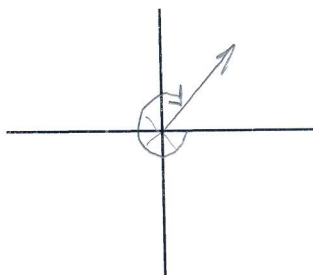
1.  $150^\circ$



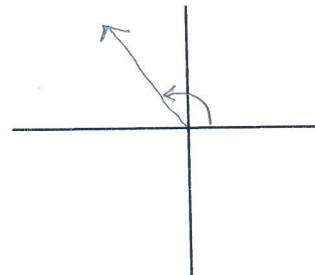
2.  $-120^\circ$



3.  $-\frac{7\pi}{4}$



4.  $\frac{2\pi}{3}$



II. Determine the quadrant in which the terminal side of the angle lies.

5.  $130^\circ$  II

6.  $-336^\circ$  I

7.  $285^\circ$  IV

8.  $-260^\circ$  II

9.  $\frac{22\pi}{3}$  III

10.  $\frac{7\pi}{5}$  III

III. Express each of the following in radian measure. Leave your answer in terms of  $\pi$ .

11.  $150^\circ$   $\frac{5\pi}{6}$   
 $150^\circ \cdot \frac{\pi}{180}$

12.  $315^\circ$   $\frac{7\pi}{4}$   
 $315^\circ \cdot \frac{\pi}{180}$

13.  $-240^\circ$   $-\frac{4\pi}{3}$   
 $-240^\circ \cdot \frac{\pi}{180}$

IV. Express each of the following in degree measure.

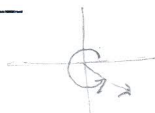
14.  $\frac{5\pi}{9}$   $100^\circ$   
 $\frac{5\pi}{9} \cdot \frac{180}{\pi}$

15.  $-\frac{7\pi}{12}$   $-105^\circ$   
 $-\frac{7\pi}{12} \cdot \frac{180}{\pi}$

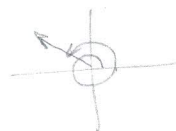
16.  $\frac{11\pi}{5}$   $396^\circ$   
 $\frac{11\pi}{5} \cdot \frac{180}{\pi}$

V. Find the reference angle for each of the following.

17.  $\frac{7\pi}{4}$   $\frac{\pi}{4}$



18.  $\frac{14\pi}{5}$   $\frac{\pi}{5}$



19.  $208^\circ$   $28^\circ$



20.  $-445^\circ$   $85^\circ$

