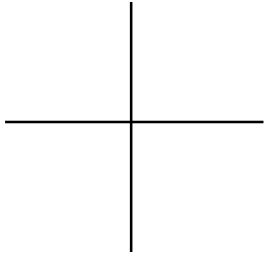
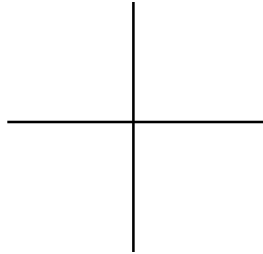


I. Sketch each of the following angles in standard position.

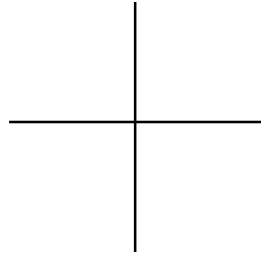
1.  $150^\circ$



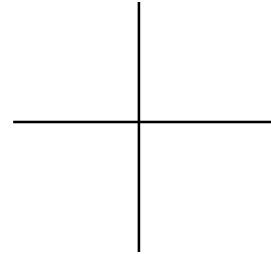
2.  $-120^\circ$



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



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



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

5.  $130^\circ$  \_\_\_\_\_

6.  $-336^\circ$  \_\_\_\_\_

7.  $285^\circ$  \_\_\_\_\_

8.  $-260^\circ$  \_\_\_\_\_

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

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

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

11.  $150^\circ$  \_\_\_\_\_

12.  $315^\circ$  \_\_\_\_\_

13.  $-240^\circ$  \_\_\_\_\_

IV. Express each of the following in degree measure.

14.  $\frac{5\pi}{9}$  \_\_\_\_\_

15.  $-\frac{7\pi}{12}$  \_\_\_\_\_

16.  $\frac{11\pi}{5}$  \_\_\_\_\_

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

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

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

19.  $208^\circ$  \_\_\_\_\_

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