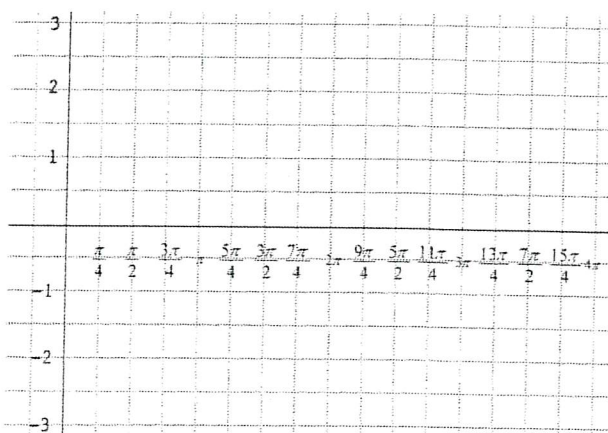
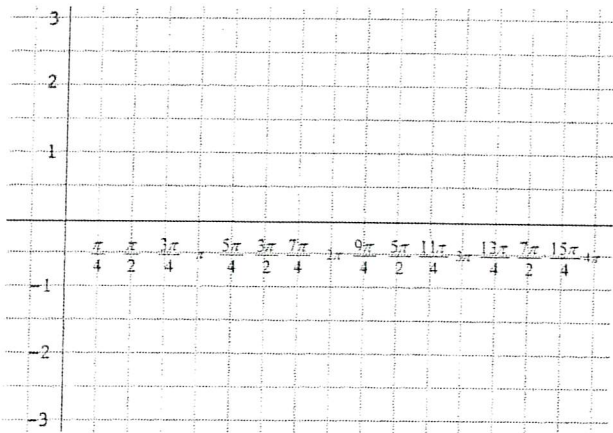


**Free Response Practice #48**  
**Calculator NOT Permitted**

The graphs of each of the six trigonometric functions are periodic in nature. Answer the following questions about the graphs of the trigonometric functions.

- a. Sketch a graph of two periods of the functions  $f(\theta) = \sin \theta$  and  $g(\theta) = \cot \theta$  beginning with  $\theta = 0$  on the axes provided.



- b. Identify the domain and range of  $f(\theta)$  and  $g(\theta)$ .

- c. Which other trigonometric function(s) have the same domain as  $g(\theta)$ ? Justify your reasoning.

- d. Describe what effect  $a$  has on the graph of  $h(\theta) = a \sin \theta$ . What would the domain and range of  $h$  be?