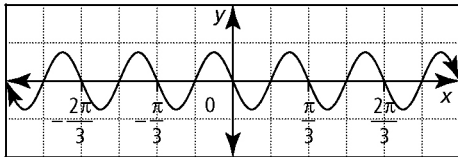


## Section 5.1 Extra Practice

1. a) Sketch the graph of  $y = \sin \theta$  for  $-360^\circ \leq \theta \leq 360^\circ$ . Identify the key points by labelling their coordinates on the graph.  
 b) What is the exact value of this function at  $225^\circ$ ?  
 c) What are the  $x$ -intercepts of the graph?
2. a) Sketch the graph of  $y = \cos x$  for  $0 \leq x \leq 2\pi$ .  
 b) What is the exact value of this function at  $\frac{4\pi}{3}$ ?  
 c) What is the minimum value of this function?  
 d) What is the  $y$ -intercept of this function?
3. a) Sketch the graph of  $y = 4 \sin x$  for  $x \in \mathbb{R}$ .  
 b) State the range of the function.  
 c) What is the period of the function in radians?  
 d) State the amplitude.
4. a) Sketch the graph of  $y = -\frac{1}{4} \cos \theta$  for  $\theta \in \mathbb{R}$ .  
 b) State the coordinates of the  $y$ -intercept.  
 c) State the range of the function.  
 d) State the amplitude.
5. a) Sketch the graph of  $y = \sin 3x$  for  $0^\circ \leq x \leq 360^\circ$ . Clearly plot the key points.  
 b) What is the period of the function, in degrees?  
 c) What is the range of this function?  
 d) State the amplitude.
6. a) Sketch the graph of  $y = \cos \frac{1}{2}x$ , in radians. Show one complete cycle.  
 b) State the coordinates of the  $y$ -intercept.  
 c) What is the period of this function?  
 d) State the amplitude.
7. For each function, state the amplitude. Then, state the period in degrees and radians.
  - a)  $y = 4 \sin 2x$
  - b)  $y = -3 \cos \frac{1}{5}x$
  - c)  $y = \frac{2}{3} \sin \frac{2}{3}x$
  - d)  $y = -\frac{1}{4} \cos (-3x)$
8. Using the language of transformations, describe how each function's graph is related to the graph of  $y = \cos x$ .
  - a)  $y = 2 \cos 4x$
  - b)  $y = -\cos \frac{1}{5}x$
  - c)  $y = -3 \cos \frac{5}{2}x$
  - d)  $y = 5 \cos (-x)$
9. For each of the following sinusoidal functions, determine the amplitude and period.
  - a) 
  - b) 