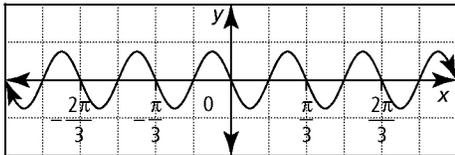


## Section 5.1 Extra Practice

- 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.
  - What is the exact value of this function at  $225^\circ$ ?
  - What are the  $x$ -intercepts of the graph?
- Sketch the graph of  $y = \cos x$  for  $0 \leq x \leq 2\pi$ .
  - What is the exact value of this function at  $\frac{4\pi}{3}$ ?
  - What is the minimum value of this function?
  - What is the  $y$ -intercept of this function?
- Sketch the graph of  $y = 4 \sin x$  for  $x \in \mathbb{R}$ .
  - State the range of the function.
  - What is the period of the function in radians?
  - State the amplitude.
- Sketch the graph of  $y = -\frac{1}{4} \cos \theta$  for  $\theta \in \mathbb{R}$ .
  - State the coordinates of the  $y$ -intercept.
  - State the range of the function.
  - State the amplitude.
- Sketch the graph of  $y = \sin 3x$  for  $0^\circ \leq x \leq 360^\circ$ . Clearly plot the key points.
  - What is the period of the function, in degrees?
  - What is the range of this function?
  - State the amplitude.
- Sketch the graph of  $y = \cos \frac{1}{2}x$ , in radians. Show one complete cycle.
  - State the coordinates of the  $y$ -intercept.
  - What is the period of this function?
  - State the amplitude.
- For each function, state the amplitude. Then, state the period in degrees and radians.

  - $y = 4 \sin 2x$
  - $y = -3 \cos \frac{1}{5}x$
  - $y = \frac{2}{3} \sin \frac{2}{3}x$
  - $y = -\frac{1}{4} \cos (-3x)$
- Using the language of transformations, describe how each function's graph is related to the graph of  $y = \cos x$ .

  - $y = 2 \cos 4x$
  - $y = -\cos \frac{1}{5}x$
  - $y = -3 \cos \frac{5}{2}x$
  - $y = 5 \cos (-x)$
- For each of the following sinusoidal functions, determine the amplitude and period.

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