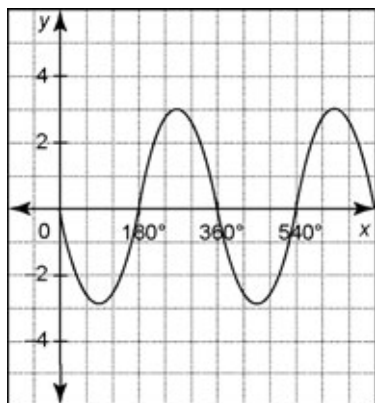


Chapter 5 Practice Test

For questions 1 to 4, select the best answer.

1. Which function does not represent the graph shown?



- A** $y = 3 \sin(x + 180^\circ)$ **B** $y = -3 \sin x$
C $y = 3 \sin(x - 180^\circ)$ **D** $y = 3 \cos x$
2. Which angle, to the nearest degree, in standard position forms the terminal point $P(0.707, -0.707)$ on the unit circle?
A 45° **B** 135° **C** 225° **D** 315°
3. Increasing the value of w in $y = A \sin(wx - p)$ will
A increase the period
B decrease the period
C increase the vertical translation
D decrease the amplitude
4. Which angle is *not* coterminal with 90° ?
A 450° **B** -630°
C 630° **D** 9090°
5. Find the measure of angle θ . Find a coterminal angle and a non-coterminal angle, if possible, that gives the same value of $\sin \theta$. Round your answers to the nearest degree.
a) $\sin \theta = 0.5736$ **b)** $\sin \theta = -0.8746$

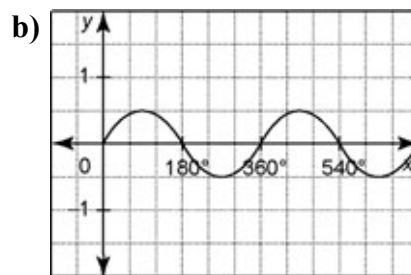
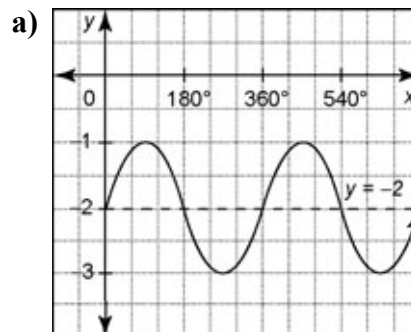
6. The minute hand on a clock is 4 cm long. Beginning from the horizontal, it rotates through a given angle. For each angle, find the distance from the tip of the minute hand to its starting position. Round your answer to the nearest tenth of a centimetre.

a) $\theta = 75^\circ$ **b)** $\theta = 225^\circ$ **c)** $\theta = 310^\circ$

7. Sketch a graph of each sine function, showing two cycles.

a) $f(x) = 9 \sin x$ **b)** $f(x) = \sin(x + 270^\circ)$

8. Determine an equation for each sine function.



- c)** amplitude = 3, phase shifted 45° to the right

Name: _____

Date: _____

BLM 5-14
(page 2)

9. A wall clock has its centre 2.0 m above the floor. The minute hand is 50 cm long and starts out pointing at 9 on the clock face.
- Sketch a graph that represents the height of the tip of the minute hand relative to the angle it forms with the horizontal as it rotates for 2 h.
 - Determine an equation that represents the height of the tip of the minute hand with respect to the height of the 9.
 - Determine an equation that represents the height of the tip of the minute hand with respect to the floor.
 - How would the graph change if the minute hand started out pointing at 12 on the clock face?
10. The height, h , in millimetres, of a point on a computer fan relative to time is modelled by $h(t) = 40 \sin(18t) + 320$, where t is the time, in milliseconds.
- Sketch a graph of the function for two rotations of the fan.
 - Determine the maximum and minimum heights of the given point on the fan.
 - Determine the height of the given point on the fan after it rotates for 12 ms. Round your answer to the nearest tenth of a millisecond.
 - Determine the height of the given point on the fan after it rotates through an angle of 225° .