**Extra Practice Problems (Chapter 7)**

**Please show all of your work for maximum credit. Good Luck!!!**

1. **The graphs describe your height, h = f(t), above the ground on different Ferris wheels, where h is in meters and t is time in minutes. You boarded the wheel before**

**t = 0. For the given graph, determine the following:**

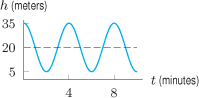
**( a ) your position and direction at t = 0**

**( b ) how long it takes the wheel to complete one full revolution**

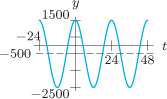
**( c ) the diameter of the wheel**

**( d ) at what height above the ground you board the wheel**

**( e ) the length of time the graph shows you riding the wheel.**

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1. **Estimate the period, midline, and amplitude of the periodic function.**



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| 3**. Find approximations to two decimal places for the coordinates of point Z .**  Image described by surrounding text |  |
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**4. Draw the unit circle and label all the special angles of 30’s, 45’s, and 60’s in degrees as well as radian throughout the circle and label the cosine, sine of each.**

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| --- | --- | --- | --- | --- | --- |
| **http://edugen.wileyplus.com/edugen/courses/crs6186/common/art/pixel.gif** | |  | | --- | |  | |  | |  | |  | |

**5. Find angles between 0° and 360° that have the same**

**(a)**

**Cosine as 60°**

**(b)**

**Sine as 60°**

**6. How far does the tip of the minute hand of a clock move in 35 minutes if the hand is 6 inches long?**

**7. Graph the following functions over two full periods. Be sure to label your axis and state the midline, amplitude, period, horizontal shift and the phase shift.**

**( a ) y = -3 cos (2t -**

**( b ) y = 2 sin (**

**8. The pressure, P (in lbs/ft2), in a pipe varies over time. Five times an hour, the pressure oscillates from a low of 90 to a high of 230 and then back to a low 90. The pressure at t=0 is 90.**

**(a)   Graph P=f(t), where t is time in minutes. Label your axes.**

**(b)   Find a possible formula for P=f(t).**