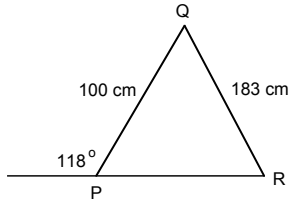
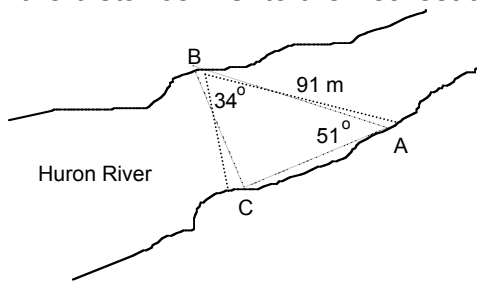


CHAPTER 5: Trigonometry & Acute Angles

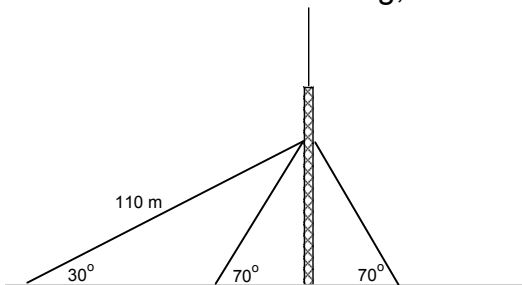
- Use a calculator to evaluate to four decimal places.
 - $\cos 11^\circ$
 - $\tan 83^\circ$
 - $\sin 39^\circ$
- Use a calculator to find θ to the nearest degree.
 - $\cos \theta = 0.3862$
 - $\tan \theta = 1.2375$
- Determine all the interior angles in $\triangle PQR$ correct to the nearest degree.



- Solve $\triangle JKL$ where $j = 17.0 \text{ cm}$, $k = 18.0 \text{ cm}$, and $l = 21.0 \text{ cm}$. Include a diagram.
- A 2.7 m ladder can be used safely only at an angle of 70° with the horizontal. How high, to the nearest metre, can the ladder reach? Include a diagram.
- A surveyor wants to calculate the distance BC across a river. He selects a position, A , so that BA is 91 m , and he measures $\angle ABC$ and $\angle BAC$ as 34° and 51° , respectively. Calculate the distance BC to the nearest tenth of a metre.



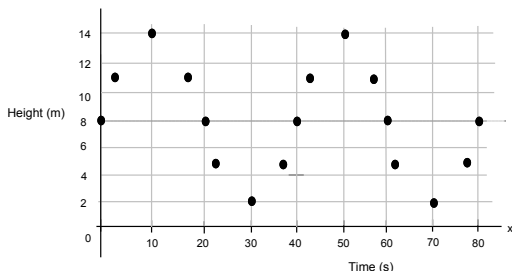
- Two sides of a parallelogram measure 6.5 cm and 8.0 cm . The longer diagonal is 11.3 cm long. How long, to the nearest centimeter, is the other diagonal? (Include a diagram).
- A temporary support cable for a radio antenna is 110 m long and has an angle of elevation of 30° . Two other support cables are already attached, each at an angle of elevation of 70° . How long, to the nearest centimetre, is each of the shorter cables?



EXTRA QUESTIONS – Chapter 5 p. 382 #6-9,27-29 MCF3MI

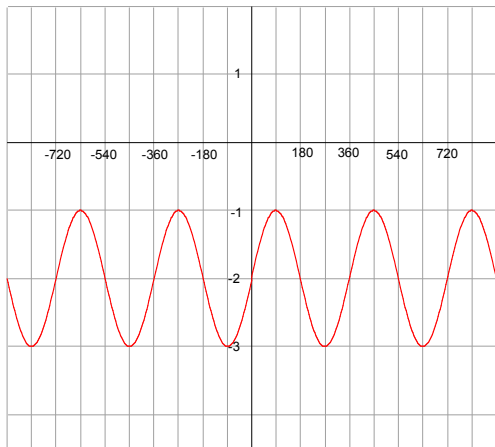
CHAPTER 6: Sinusoidal Functions

- Information about the movement of a Ferris wheel is shown below.



- How long does it take for the Ferris wheel to make five complete rotations?
- What is the height of the axle supporting the Ferris wheel?
- Calculate the speed at which the wheel is rotating.

2. Given the following graph, complete the given analysis.



Amplitude: _____

Period: _____

Range: _____

Number of cycles from -540 to 540: _____

Axis: _____

3. Describe the transformation $g(x) = -2\sin x + 1$ and then sketch it.

4. What is the range for each of the following sinusoidal functions?

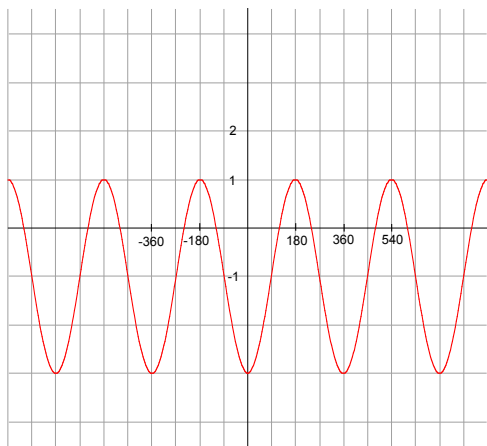
(a) $f(x) = 0.5\sin x - 4$

(b) $f(x) = \sin(x - 180^\circ)$

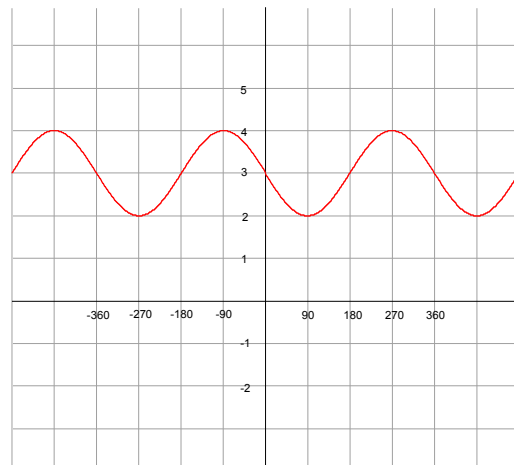
5. The function $f(x) = \sin x$ has been translated 60° to the right, vertically stretched by a factor of 3 and reflected in the x-axis. Write the new equation.

6. Write the equation for the sinusoidal function.

(a)



(b)



7. Complete the chart below.

Sinusoidal Function	Maximum	Minimum
(a) $f(x) = 3\sin x$		
(b) $f(x) = -\sin(x - 45^\circ) + 6$		
(c) $f(x) = -0.25\sin x - 1.5$		

8. The height of a Ferris wheel is modeled by the function $h(x) = 6\sin(x - 45^\circ) + 7$, where $h(x)$ is in metres and x is the number of degrees the wheel has rotated from the boarding position of a rider.

(a) Sketch the curve (on graph paper).

(b) When the rider has rotated 400° from the boarding position, how high above the ground is the rider?

9. Sketch each sinusoidal function.

(a) $f(x) = 2\sin(x - 90^\circ)$

(b) $f(x) = 0.5\sin(x - 60^\circ) - 2$