

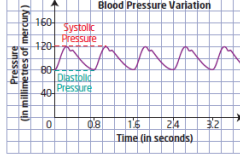
Graphing Sine & Cosine II (5.1) *p233 day 2*

Soccer problem

or

Basketball problem

15. Systolic and diastolic pressures mark the upper and lower limits in the changes in blood pressure that produce a pulse. The length of time between the peaks relates to the period of the pulse. *p233 day 2 7, 9, 10, 11ab,*



10. a) Determine the period and amplitude of each function in the graph.

7. Determine the amplitude of each. Then, use the language of transformations to describe how each graph is related to the graph of  $y = \sin x$ .

a)  $y = 3 \sin x$  b)  $y = -5 \sin x$

c) 11. Sketch the graph of each function on the interval  $[-360^\circ, 360^\circ]$ . For each graph, clearly label the maximum values, the x-intercepts, the period, and the range.

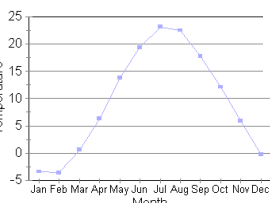
a)  $y = 2 \cos x$  b)  $y = -2 \cos x$

c)  $y = \frac{1}{2} \sin x$  d)  $y = -\frac{1}{2} \sin x$

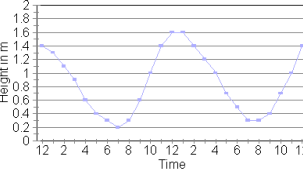
Graphing Sine & Cosine II (5.1) *p233 day 2*

*what do we mean by a periodic function?*

**Average Monthly Temperatures On PEI**



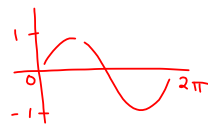
**Height of Tides at Charlottetown**



Graphing Sine & Cosine II (5.1) *p233 day 2*

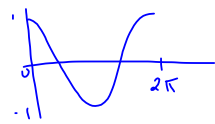
*a quick recap...*

sketch  $y = \sin(x)$



amplitude = 1

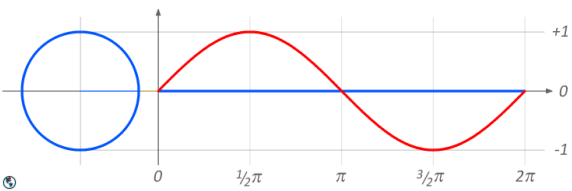
sketch  $y = \cos(x)$



period =  $2\pi$

Graphing Sine & Cosine II (5.1) *p233 day 2*

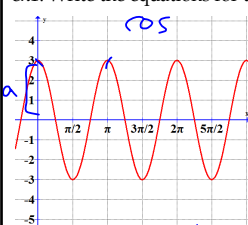
Why are they called circular functions?



Graphing Sine & Cosine II (5.1) *p233 day 2*

ex1: Write the equations for the following graphs.

**cos**

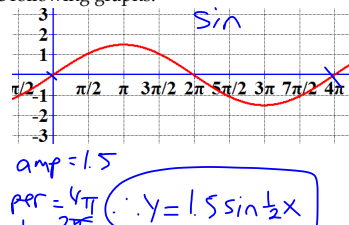


amp = 3 period =  $\pi$

$b = \frac{2\pi}{\text{period}} = \frac{2\pi}{\pi} = 2$

$y = 3 \cos 2x$

**Sin**



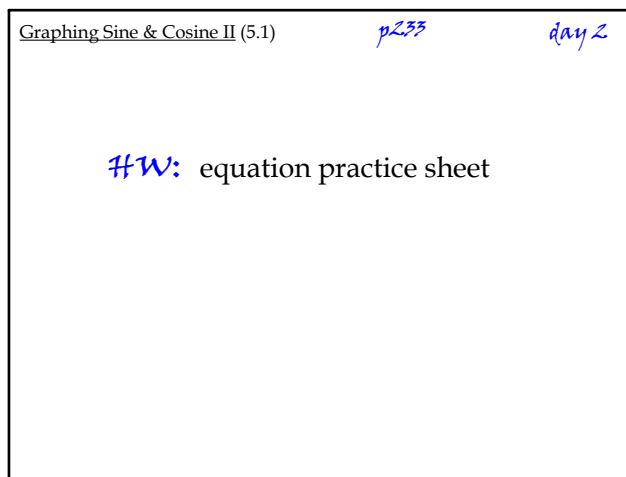
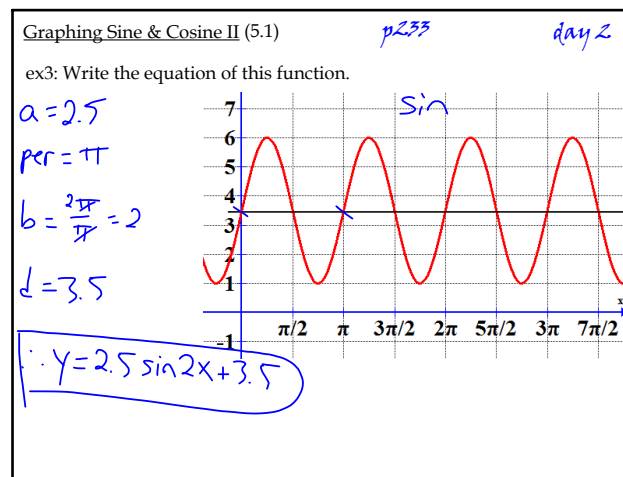
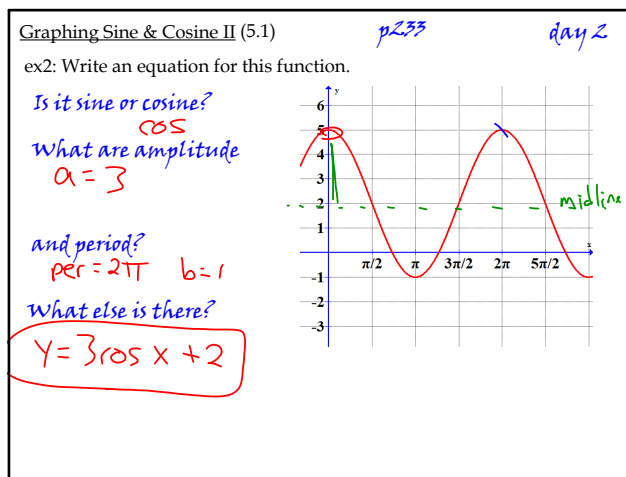
amp = 1.5

per =  $4\pi$

$b = \frac{2\pi}{\text{per}} = \frac{2\pi}{4\pi} = \frac{1}{2}$


$y = 1.5 \sin \frac{1}{2}x$

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Attachments

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 Sine\_curve\_drawing\_animation.gif