|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **OBJECTIVES:**Be able to graph the sine and cosine functions in both radians and degrees. Note that the ranges of both ***y = sin x*** and ***y = cos x*** will be **y**-values between -1 and 1.

|  |
| --- |
| **Sine Function:   http://regentsprep.org/Regents/math/algtrig/ATT7/sincos6.gif** |

http://regentsprep.org/Regents/math/algtrig/ATT7/sincos5.gif

|  |  |
| --- | --- |
|  |  |
|

|  |
| --- |
| **Cosine Function:   http://regentsprep.org/Regents/math/algtrig/ATT7/sincos9.gif**  |
| **For both the sine and cosines graphs here:****http://regentsprep.org/Regents/math/algtrig/ATT7/bullet.gif**called a "wave" because of its rolling wave-like          appearance  **http://regentsprep.org/Regents/math/algtrig/ATT7/bullet.gif** amplitude: 1 **http://regentsprep.org/Regents/math/algtrig/ATT7/bullet.gif** period:http://regentsprep.org/Regents/math/algtrig/ATT7/graphv1.gif**http://regentsprep.org/Regents/math/algtrig/ATT7/bullet.gif** frequency:  1cycle in http://regentsprep.org/Regents/math/algtrig/ATT7/graphv1.gifradians **http://regentsprep.org/Regents/math/algtrig/ATT7/bullet.gif** domain:  **http://regentsprep.org/Regents/math/algtrig/ATT7/sincos7.gif  http://regentsprep.org/Regents/math/algtrig/ATT7/bullet.gif** range:**http://regentsprep.org/Regents/math/algtrig/ATT7/sincos8.gif**  |  |

 |  **http://regentsprep.org/Regents/math/algtrig/ATT7/sincos9.gif**

|  |
| --- |
| **http://regentsprep.org/Regents/math/algtrig/ATT7/sincos10.gif** |

 |
|  | Did you notice that the cosine curve is really the exact same graph as the sine curve shifted 90º (or http://regentsprep.org/Regents/math/algtrig/ATT7/sincos12.gifradians) to the left? |

**THURSDAY (11.7.24)** **At the beginning of this class, turn in your Take-Home Quiz: Use** the ***Five Point Method*** to graph one period of a given sine function.**Discuss how to graph the cosine function,** using The Five Point Method.**Class Work:** Graph these functions on the same coordinate plane.1. ***y = cos (0.5(x-45))o + 1.***
2. ***y = sin (0.5(x-45))o + 1.***

**Class Work/Homework:****Graph the one period for each of the following functions, using formats discussed in class.**(1) y = 6sin (3(x + 50)) o(2) y = -4cos(9(x-10)) o + 3(3) The height of the tide in a small beach town is measured along a seawall. Water levels oscillate between 7 feet at low tide and 15 feet at high tide. On a particular day, low tide occurred at 6 AM and high tide occurred at noon. Approximately every 12 hours, the cycle repeats. Find a cosine model, using degrees, for the water levels.**FRIDAY (11.8.24)****Discuss the previously assigned class work/homework.****Class Work/Homework: Graph the following, using The Five Point Method and radians.**1. y = sin x
2. y = cos x
3. y = 4sin (0.2x)
4. y = 4cos (0.2x)
5. y = -2sin (*π*x) + 1
6. y = -2cos (*π*x) + 1
7. y = 2sin (2(x – 0.5*π*)) – 1
 |
|  |