|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 | |
|  | |