**Openers #6 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

*Each day when you come into class, there will be a problem projected for you to complete. Find the appropriate box to complete the problem in and work on it when you arrive.*

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| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 6-1  Find a positive and negative angle coterminal to -150⁰.  Find an angle complementary to 63⁰4’15”.  Find the exact radian measure of 630⁰.  Find the exact degree measure of  Express θ=4 in terms of degrees, minutes and seconds. |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 6-2-1  1  3  θ  4x - 4  2x2 – 5x  4x - 4  2x2 – 5x  Find the values of the six trig functions for θ.  y  Find the exact values of x and y.  x  4  θ  x  10  θ  y  Use Pythagorean identities to write 5sin2θ­ + 5cos2θ as an integer.  Simplify.  Verify the identity. cotθsecθ = cscθ |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 6-2-2  Find the exact values of the trig functions for cot θ = .  A forester, 300 feet from the base of a tree, observes the angle between the ground and top of the tree is 60⁰. Estimate the height of the tree.  Verify the identity. (tanθ + cotθ)tanθ = sec2θ  Find the exact values of the six trig functions of each angle.   1. 180⁰ b)   Find the quadrant containing θ if   1. tanθ <0 and cosθ>0 b) cscθ >0 and cotθ <0 |
| **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_**  **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_**  **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_**  **Date:**  **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 6-3  Find the values of the six trig functions of P(  Find the coordinates of P on the unit circle and the exact values of the six trig functions of 6π.  Find the exact value of   1. sec ( b) csc (-45⁰)   Verify the identity. cot(-x)cos(-x) + sin(-x) = -cscx  6-4  Find the reference angle if θ has the given measure  a) -110⁰ b)  Find the exact value of   1. cos ( b) sec -210⁰   Approximate the acute angle θ to the nearest 1’. cosθ = .8  Approximate to four decimal places. cot 1030.2⁰  Approximate to the nearest .1⁰ all angles θ in the interval [0⁰,360⁰) that satisfies   1. sinθ = .8825 2. secθ = 1.4291   6-5  Find the amplitude and period and sketch the graphs.   1. y = b) y = 2 cos   6-5 continued…  Find the amplitude, period and phase shift and sketch the graphs.   1. y = cos (x - b) y = sin (   6-6  Find the period and sketch the qraphs. Show asymptotes.   1. y = 2. y = tan(x + 3. y = cot3x 4. y = sec (x -   6-7  Given the indicated parts of the triangle ABC with γ = 90°, find the exact values of the remaining parts.   1. α = 60°, c = 6 2. b = 7, c = 14 3. The length of a shadow of a tree is 125 feet when the angle of elevation of the sun is 33⁰. Approximate the height of the tree. 4. An amateur radio operator erects a 75-foot vertical tower for an antenna. Find the angle of elevation to the top of the tower at a point on level ground 50 feet from its base. |