**Openers #7 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:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 7-1Verify the identities.1. (tan u + cot u) (cos u + sin u) = csc u + sec u
2. tan2α – sin2α = tan2αsin2α
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| **Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 7-2-1Find all solutions of the equations.1. csc γ = $\sqrt{2}$
2. cot θ + 1 = 0
3. 4sin2x – 3 = 0
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| **Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 7-2-2Find the solutions that are in the interval [0, 2π)1. cot2θ – cotθ = 0
2. 2cos2t + 3cost + 1 = 0
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| **Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_****Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_****Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_****Date:** **\_\_\_\_ / \_\_\_\_/ \_\_\_\_** | 7-3Express sin 89⁰41’ as a cofunction of a complementary angle.Find the exact values.1. sin $\frac{2π}{3}+\sin(\frac{π}{4})$ b) sin $\frac{11π}{12} (use \frac{2π}{3}+ \frac{π}{4})$

Express as a trig function.1. cos 13⁰cos 50⁰ - sin 13⁰sin50⁰ b) If α and β are acute angles such that csc

 α = $\frac{13}{12 }$ and cot β = $\frac{4}{3}$, find sin( α + β).Verify the reduction formula. sin (x + $\frac{π}{2}$ ) = cos x7-4Find the exact values of sin 2θ, cos 2θ, and tan 2θ for sin θ = $\frac{-4}{5}; $270⁰ < θ < 360⁰ Find the exact values of sin θ/2, cos θ/2, and tan θ/2 for csc θ = $\frac{-5}{3}; $-90⁰ < θ < 0⁰Use the half-angle formula to find the exact values of cos 165⁰.Find the solutions of cos t – sin 2t = 0 that are in the interval [0, 2π).7-5Express 5 cos u cos 5u as a sum or difference.Express cos 5t + cos 6t as a product.7-5 continued…Use sum-to-product formulas to find the solutions of the equations. 1. sin t + sin 3t = sin 2t
2. cos 4x – cos 3x = 0

7-6Find the exact value of the expression.1. sin-1 ($\frac{-1}{2}$ ) b) arcsin 0 c) arctan(tan$\frac{π}{4} $) d) tan(cos-1 0) e) sin(tan-1$\sqrt{3}$)

 f) sin(2tan-1 $\frac{5}{12}$) g) cos(sin-1$\frac{4}{5} $+ tan-1$\frac{3}{4 }$) h) sec(tan-1$\frac{7}{4} $)Write the expression tan(arcos x) as an algebraic expression in x for x > 0. |