Name:_____ Period:_____ Date:_____

Sum, Difference and Double Angle Formulas for Sine and Cosine

Directions: Answer these questions without a calculator.

1. Find the exact value for $\cos(165°)$.

2. Find the exact value for $\sin(\frac{7\pi}{12})$.

3. Show that $\cos(x + 2\pi) = \cos(x)$

4. Sketch a graph $\cos(6x)\cos(x) - \sin(6x)\sin(x)$.

5. Show that $\cos(90° - A) = \sin A$

6. Graph $y = 4\sin7x\cos3x - 4\cos7x\sin3x$ over one full period.

7. If sinA = 3/5 in Q1 and cosB = -5/13 with B in QIII, find sin(A+B), cos(A -B), sin(2A), cos(2A) .

8. Find an exact value for $\cos15°\cos75° - \sin15°\sin75°$.

9. Find an exact value for $\sin68°\cos23° - \cos68°\sin23°$.

10. If tanA = -12/5 in Q2 and find sin(2A) and cos(2A).

11. Prove $\dfrac{2 - 2\cos2x}{\sin2x}$ = secx (csc x) – cotx + tanx

12. Prove (cos x – sin x)(cos x + sin x) = cos 2x.