Trigonometric Functions

Sum, Difference, Double, and Half-Angle Review

Use the sum and difference trig identities to find the exact value of each function.

1. sin 165°

2. cos 195°

For problems #3 through #6, if A and B are the measure of two first-quadrant angles, find the exact value of each function.

3. For $\sin A = \frac{21}{29}$, $\cos B = \frac{15}{17}$, find $\cos (A - B)$.

4. For $\sin A = \frac{7}{25}$, $\sec B = \frac{17}{8}$, find $\sin (A + B)$.

5. For $\sin A = \frac{21}{29}$, find $\cos (2A)$.

6. For $\cos A = \frac{7}{25}$, find $\sin (2A)$.

7. Verify that $\sin(90° + x) = \cos x$.

8. Find $\cos 2y$ if y is in Quadrant IV, and $\cos y = \frac{24}{25}$. ***(Hint: Don't just double cos y. It doesn't work that way.)***

9. Use a half-angle identity to find the exact value of $\sin 105°$.

10. Show that $\frac{1 - 2\cos 2x}{2\sin x - 1} = 2\sin x + 1$.