

Name: _____
PC: Practice with Sum, Difference, and Double Angle Formulas

Date: _____
Ms. Loughran

Please answer all questions on a separate sheet of paper.

- 1) Which expression is equivalent to $\sin 22^\circ \cos 18^\circ + \cos 22^\circ \sin 18^\circ$?
A) $\sin 40^\circ$ B) $\cos 4^\circ$ C) $\sin 4^\circ$ D) $\cos 40^\circ$
- 2) The expression $2 \sin 30^\circ \cos 30^\circ$ has the same value as
A) $\cos 60^\circ$ B) $\sin 15^\circ$ C) $\sin 60^\circ$ D) $\cos 15^\circ$
- 3) The expression $\cos^2 40^\circ - \sin^2 40^\circ$ has the same value as
A) $\cos 20^\circ$ B) $\sin 80^\circ$ C) $\cos 80^\circ$ D) $\sin 20^\circ$
- 4) $\cos 70^\circ \cos 40^\circ - \sin 70^\circ \sin 40^\circ$ is equivalent to
A) $\sin 70^\circ$ B) $\cos 110^\circ$ C) $\cos 30^\circ$ D) $\cos 70^\circ$
- 5) A and B are positive acute angles. If $\sin A = \frac{4}{5}$ and $\cos B = \frac{8}{17}$, find the value of $\sin (A - B)$.
- 6) A and B are positive acute angles. If $\sin A = \frac{4}{5}$ and $\cos B = \frac{8}{17}$, find the value of $\cos (A + B)$.
- 7) A and B are positive acute angles. If $\sin A = \frac{4}{5}$ and $\cos B = \frac{8}{17}$, find the value of $\cos (A - B)$.
- 8) If $\sec x = \frac{\sqrt{5}}{2}$ with angle x in quadrant IV and $\tan y = -\frac{1}{3}$ with angle y in quadrant II , find the value of $\sin (x - y)$.
- 9) A and B are positive acute angles. If $\sin A = \frac{4}{5}$ and $\cos B = \frac{8}{17}$, find the value of $\sin (A + B)$.
- 10) If $\sin A = \frac{3}{5}$, find $\cos 2A$.
- 11) If $\cos \theta = -\frac{3}{5}$, find $\cos 2\theta$ and express in simplest form.
- 12) If A is a positive acute angle and $\sin A = \frac{\sqrt{7}}{3}$, find the value of $\sin 2A$.