

MHF 4U

DOUBLE ANGLE FORMULAS

Develop formulas for $\sin 2A$, $\cos 2A$, and $\tan 2A$.

A) $\sin 2A = \sin(A + A)$

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B) $\cos 2A = \cos(A + A)$

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C) $\tan 2A = \tan(A + A)$

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EXERCISE:

1. If $\sin A = \frac{3}{4}$ and $A \in \left[0, \frac{\pi}{2}\right]$, determine the measures of $\sin 2A$, $\cos 2A$, and $\tan 2A$.

2. Given $\sin A = \frac{4}{5}$, $A \in \left[\frac{\pi}{2}, \pi\right]$, and $\sec B = 2$, $B \in \left[0, \frac{\pi}{2}\right]$, determine...

A) $\sin 2A$ B) $\cos 2A$ C) $\tan 2B$ D) $\sin 2B$

3. Given $\csc P = -\frac{3}{2}$, $P \in \left[\pi, \frac{3\pi}{2}\right]$ and $\sec Q = -\frac{6}{5}$, $Q \in \left[\frac{\pi}{2}, \pi\right]$, determine...

A) $\sin 2Q$ B) $\tan 2P$ C) $\cos 2P$ D) $\cos 2Q$