Precalculus

Double Angles

Use a double-angle identity to find the exact value of each expression.

1) $\tan\theta = \frac{7}{24}$ and $0° < \theta < 90°$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

2) $\sin\theta = -\frac{3}{5}$ and $270° < \theta < 360°$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

3) $\cos\theta = -\frac{4}{5}$ and $90° < \theta < 180°$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

4) $\cos\theta = -\frac{15}{17}$ and $90° < \theta < 180°$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

5) $\tan\theta = \frac{9}{40}$ and $180° < \theta < 270°$,find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

6) $\sin\theta = \frac{60}{61}$ and $90° < \theta < 180°$,find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

7) $\cot\theta = -\frac{15}{8}$ and $270° < \theta < 360°$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

8) $\sec\theta = -\frac{25}{24}$ and $180° < \theta < 270°$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

9) $\csc\theta = -\frac{25}{24}$ and $\frac{3\pi}{2} < \theta < 2\pi$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

10) $\sin\theta = -\frac{3}{5}$ and $\frac{3\pi}{2} < \theta < 2\pi$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

11) $\tan\theta = \frac{8}{15}$ and $\pi < \theta < \frac{3\pi}{2}$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

12) $\cos\theta = -\frac{24}{25}$ and $\frac{\pi}{2} < \theta < \pi$, find

$\sin 2\theta =$

$\cos 2\theta =$

$\tan 2\theta =$

