

Assignment: Double Angle Identity

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

1) $\csc \theta = -\frac{5}{3}$ and $270^\circ < \theta < 360^\circ$

Find $\tan 2\theta$

2) $\sec \theta = -\frac{5}{4}$ and $90^\circ < \theta < 180^\circ$

Find $\cot 2\theta$

3) $\sec \theta = \frac{5}{4}$ and $270^\circ < \theta < 360^\circ$

Find $\sin 2\theta$

4) $\cot \theta = -\frac{\sqrt{455}}{11}$ and $90^\circ < \theta < 180^\circ$

Find $\sec 2\theta$

5) $\cos \theta = -\frac{4\sqrt{21}}{19}$ and $90^\circ < \theta < 180^\circ$

Find $\cot 2\theta$

6) $\cot \theta = -\frac{4}{3}$ and $270^\circ < \theta < 360^\circ$

Find $\sec 2\theta$

7) $\tan \theta = \frac{7}{24}$ and $0^\circ < \theta < 90^\circ$

Find $\sin 2\theta$

8) $\cot \theta = \frac{\sqrt{39}}{5}$ and $0^\circ < \theta < 90^\circ$

Find $\tan 2\theta$

9) $\cot \theta = -\frac{12}{5}$ and $90^\circ < \theta < 180^\circ$

Find $\sec 2\theta$

10) $\cot \theta = \frac{4}{3}$ and $0^\circ < \theta < 90^\circ$

Find $\sin 2\theta$

Answers to Assignment: Double Angle Identity

1) $-\frac{24}{7}$

2) $-\frac{7}{24}$

3) $-\frac{24}{25}$

4) $\frac{288}{167}$

5) $-\frac{311\sqrt{21}}{840}$

6) $\frac{25}{7}$

7) $\frac{336}{625}$

8) $\frac{5\sqrt{39}}{7}$

9) $\frac{169}{119}$

10) $\frac{24}{25}$

