

Double Angle and Half Angle Identities

1. Use a double-angle or half-angle identity to find the exact value of each expression $\cos \theta = 4/5$ and $270^\circ < \theta < 360^\circ$

Find $\sin 2\theta$

- | | |
|--------------------------------------|--------------------------------------|
| ☐ a) $-1/5$ | ☐ b) $24/25$ |
| ☐ c) $-24/25$ | ☐ d) $-25/24$ |

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

$\sin \theta = -3/5$ and $3\pi/2 < \theta < 2\pi$ Find $\tan \theta/2$

- | | |
|--|---|
| ☐ a) $-1/3$ | ☐ b) $-\sqrt{3}$ |
| ☐ c) $\sqrt{3}/3$ | ☐ d) -1 |

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

$\cos \theta = 4/5$ and $270^\circ < \theta < 360^\circ$

Find $\sin 2\theta$

- | | |
|--------------------------------------|--------------------------------------|
| ☐ a) $-1/5$ | ☐ b) $24/25$ |
| ☐ c) $-24/25$ | ☐ d) $-25/24$ |

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

$$\cos \theta = 4/5 \text{ and } 270^\circ < \theta < 360^\circ \text{ Find } \sin 2\theta$$

- ☐ a) $-1/5$ ☐ b) $24/25$
☐ c) $-24/25$ ☐ d) $-25/24$

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

$$\sin \theta = -3/5 \text{ and } 3\pi/2 < \theta < 2\pi \text{ Find } \tan \theta/2$$

- ☐ a) $-1/3$ ☐ b) $-\sqrt{3}$
☐ c) $\sqrt{3}/3$ ☐ d) -1

6. Use the information about the angle θ , $0 \leq \theta < 2\pi$ to find the exact value of

$$\sin (2\theta)$$

$$1. \sin \theta = 3/5, 0 < \theta < \pi/2$$

- ☐ a) $24/7$ ☐ b) $7/25$
☐ c) $24/25$ ☐ d) $1/2$

7. $\sin 2u =$

☐ a) $(\sin u)(\cos u)$

☐ b) $2(\sin u)(\cos u)$

☐ c) $(\sin u)^2$

☐ d) $2(\sin u)^2$

8. If $\cos x = -4/5$, find $\sec x$.

☐ a) $-5/4$

☐ b) $-3/5$

☐ c) $5/3$

☐ d) $\sqrt{3}/2$

9. Find the exact value of $\sin 2x$ if $\sin x = 12/13$ and x is in the first quadrant.

☐ a) $120/169$

☐ b) $25/169$

☐ c) $60/169$

☐ d) $5/13$

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

$\cos \theta = 4/5$ and $270^\circ < \theta < 360^\circ$

Find $\sin 2\theta$

☐ a) $-1/5$

☐ b) $24/25$

☐ c) $-24/25$

☐ d) $-25/24$