

Warmup 2: Double Angle

Use the double angle identity to find exact value.

1. $\tan 450^\circ$ $450/2 = 225$ 2. Given $\cos \theta = \frac{4}{5}$ and $270^\circ < \theta < 360^\circ$,
find $\sin 2\theta$.

$$\tan(2 \cdot 225^\circ)$$

$$\frac{2 \tan \theta}{1 - \tan^2 \theta}$$

$$= \frac{2 \tan 225^\circ}{1 - \tan^2 225^\circ}$$

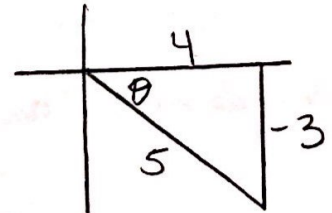
$$= \frac{2(1)}{1 - (1)^2}$$

$$= \frac{2}{1-1}$$

$$= \frac{2}{0}$$

$$= \boxed{\emptyset}$$

find $\sin 2\theta$.



$$\sin 2\theta = 2 \sin \theta \cos \theta$$

$$= 2 \left(-\frac{3}{5}\right) \left(\frac{4}{5}\right)$$

$$= \boxed{-\frac{24}{25}}$$