

## Warmup 2: Double Angle

Use the double angle identity to find exact value.

1.  $\tan 450^\circ$

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

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

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

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

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

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

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

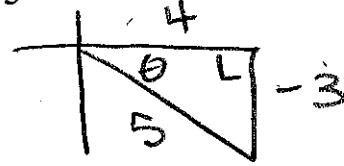
$$\frac{2}{0}$$

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

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

2. Given  $\cos \theta = \frac{4}{5}$  and  $270^\circ < \theta < 360^\circ$ ,

find  $\sin 2\theta$ .



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

$$= 2 \cdot \frac{-3}{5} \cdot \frac{4}{5}$$

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