

Use a half-angle formula to find the requested value.

**13.**  $\tan(67.5^\circ)$

**14.**  $\cos\left(\frac{5\pi}{8}\right)$

Given:  $270^\circ < A < 360^\circ$  and  $\sin(A) = -\frac{\sqrt{15}}{4}$ , find the requested value.

**15.**  $\sin\left(\frac{A}{2}\right)$

**16.**  $\tan\left(\frac{A}{2}\right)$

Prove each identity.

$$17. \csc x - 2\sin x = \frac{\cos(2x)}{\sin x}$$

$$18. \cot x - \tan x = \frac{\cos(2x)}{\sin x \cos x}$$

$$19. \cos(2x) = \frac{1 - \tan^2 x}{1 + \tan^2 x}$$

$$20. \cos(270^\circ - A) = -\sin A$$