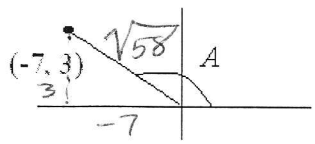
3. Find the exact value for $\csc A$.



$\csc A = \frac{\sqrt{58}}{3}$

4. Solve for the variable (if possible) so that $0 \le \text{variable} \le \pi$. Express your answer in radians.

A. $\frac{1+\tan y}{\sin y} = 0$

$1 + \tan(y) = 0$

$\tan(y) = -1$

$y = \frac{3}{4}\pi$

B. $2\cos^2 t - 16 = 0$

$2\cos^2 t = 16$

$\cos^2 t = 8$

$\cos t = \pm\sqrt{8}$

none

C. $\sin(2x) - \cos(x) = 0$

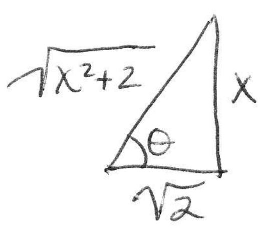
$2\sin x\cos x - \cos x = 0$

$\cos x(2\sin x - 1) = 0$

$\cos x = 0$ or $\sin x = \frac{1}{2}$

$x = \frac{\pi}{2}, \frac{\pi}{6}, \frac{5\pi}{6}$

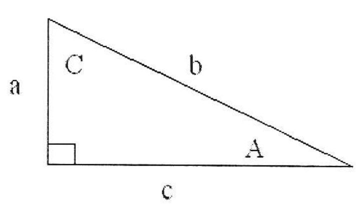
5. Find the exact value for $\csc\left(\tan^{-1}\left(\frac{x}{\sqrt{2}}\right)\right)$. Your answer will be in terms of *x*.



$\tan\theta = \frac{x}{\sqrt{2}}$

$\csc\theta = \frac{\sqrt{x^2+2}}{x}$

6. Express the area of this triangle in terms of A, b, and c.



$\text{Area} = \frac{1}{2}ac$

$= \frac{1}{2}(b\sin A)c$

$\text{Area} = \frac{1}{2}bc\sin A$

$\sin A = \frac{a}{b}$

$a = b\sin A$