

PreCalculus Chapter 5 Speedy Review

Names _____

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<p>3. Using trig identities, find sin x and tan x if $\cos x = 4/5$ and $\csc x < 0$.</p>	<p>4. Simplify $\sin x \cos^2 x - \sin x$.</p>																														
<p>5. Solve $\sin x + \sqrt{2} = -\sin x$</p>	<p>6. Write the 2 quotient identities.</p>																														
<p>7. Factor $\csc^2 x - \cot x - 3$</p>	<p>8. Solve $2 \sin^2 x + 3 \cos x - 3 = 0$.</p>																														
<p>9. Write the 3 Pythagorean identities</p>	<p>10. Factor $4 \tan^2 \theta + \tan \theta - 3$</p>																														
<p>11. Solve $\sin^2 x = 2 \sin x$</p>	<p>12. Solve $3 \tan^2 x - 1 = 0$</p>																														
<p>13. Simplify $\cos^2 x \csc x - \csc x$</p>	<p>14. Factor $2 \csc^2 x - 7 \csc x + 6$</p>																														

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<p>3. $\sin x = -\frac{3}{5}, \tan x = -\frac{3}{4}$</p>	<p>4. $-\sin x(1 - \cos^2 x)$ $-\sin x(\sin^2 x)$ $-\sin^3 x$</p>																														
<p>5. $\sin x + \sin x + \sqrt{2} = 0$ $\sin x + \sin x = -\sqrt{2}$ $2 \sin x = -\sqrt{2}$ $\sin x = -\frac{\sqrt{2}}{2}$ $x = \frac{5\pi}{4} + 2n\pi$ $x = \frac{7\pi}{4} + 2n\pi$</p>	<p>6. $\tan u = \frac{\sin u}{\cos u} \quad \cot u = \frac{\cos u}{\sin u}$</p>																														
<p>7. $\csc^2 x - \cot x - 3 = (1 + \cot^2 x) - \cot x - 3$ $= \cot^2 x - \cot x - 2$ $= (\cot x - 2)(\cot x + 1)$</p>	<p>8. $2(1 - \cos^2 x) + 3 \cos x - 3 = 0$ $2 \cos^2 x - 3 \cos x + 1 = 0$ $(2 \cos x - 1)(\cos x - 1) = 0$ $x = 2n\pi, \quad x = \frac{\pi}{3} + 2n\pi, \quad x = \frac{5\pi}{3} + 2n\pi$</p>																														
<p>9. $\sin^2 u + \cos^2 u = 1$ $\tan^2 u + 1 = \sec^2 u$ $1 + \cot^2 u = \csc^2 u$</p>	<p>10. $4 \tan^2 \theta + \tan \theta - 3 = (4 \tan \theta - 3)(\tan \theta + 1)$</p>																														
<p>11. $\sin^2 x = 2 \sin x - 1$ $\sin x(\sin x - 2) = 0$ $\sin x = 0 \quad \sin x = 2$ $x = n\pi, \quad \text{no solution}$</p>	<p>12. $3 \tan^2 x = 1$ $\tan^2 x = \frac{1}{3}$ $\tan x = \pm \frac{1}{\sqrt{3}}$ $\tan x = \pm \frac{\sqrt{3}}{3}$ $x = \frac{\pi}{6} + n\pi$ $x = \frac{5\pi}{6} + n\pi$</p>																														
<p>13. $\csc x (\cos^2 x - 1)$ $\csc x (1 - \cos^2 x - 1)$ $\csc x (-\sin^2 x)$ $-\sin x$</p>	<p>14. $(2 \csc x - 3)(\csc x - 2)$</p>																														