5.3: (Trigonometric Functions of Angles)

If $\cot\theta = \frac{1}{2}, \pi < \theta < \frac{3\pi}{2}$, then $\sin\theta + \cos\theta =$ (a) $\frac{-3}{\sqrt{5}}$ (b) 3 (c) $\frac{-1}{\sqrt{5}}$ (d) $\frac{3}{\sqrt{5}}$ (e) $\frac{1}{\sqrt{5}}$	Trigonometric Functions of Angles.
If $\tan x = \frac{12}{5}$ for all x is in the third quadrant, then $\cos x =$ (a) $-\frac{5}{13}$ (b) $\frac{5}{13}$ (c) $-\frac{12}{13}$ (d) $\frac{12}{13}$ (e) $\frac{13}{5}$	Trigonometric Functions of Angles.
If $\cos\theta = -\frac{1}{2}$ and $\sin\theta > 0$, then $\cot\theta + \csc\theta =$ A) $\frac{\sqrt{3}}{3}$ B) $\frac{1}{2}$ C) $-\frac{\sqrt{3}}{2}$ D) $-\sqrt{3}$ E) $\sqrt{3}$	Trigonometric Functions of Angles.

If $\sec\theta = -5$ and $\sin\theta > 0$, then $\tan\theta - \sin\theta =$ A) $\frac{8\sqrt{6}}{5}$ B) $12\sqrt{6}$ C) $-\frac{12\sqrt{6}}{5}$ D) $-2\sqrt{6}$ E) $-\frac{8\sqrt{6}}{5}$	Trigonometric Functions of Angles.
If θ is in quadrant IV and $\sec\theta = \frac{x+4}{x}$, where $x > 0$, then $\tan\theta =$ A) $-\frac{2\sqrt{2x+4}}{x}$ B) $-\frac{\sqrt{2x+4}}{2x}$ C) $\frac{2\sqrt{x+1}}{x}$ D) $-\frac{4\sqrt{x+4}}{x}$ E) $\frac{4\sqrt{x+4}}{x}$	Trigonometric Functions of Angles.
If x is in the third quadrant, then $\cot x$ in terms of $\sin x$ is (a) $-\frac{\sqrt{1-\sin^2 x}}{\sin x}$ (b) $\frac{\sqrt{1-\sin^2 x}}{\sin x}$ (c) $-\frac{\sin x}{\sqrt{1+\sin^2 x}}$ (d) $\frac{\sin x}{\sqrt{1+\sin^2 x}}$ (e) $-\frac{\sqrt{1-\sin x}}{\sin x}$	Trigonometric Functions of Angles.

If x is in the third quadrant, then $\cot x$ in terms of $\sec x$ is A) $\frac{\sqrt{\sec^2 x-1}}{\sec^2 x-1}$ B) $-\frac{\sqrt{\sec^2 x-1}}{\sec^2 x-1}$ C) $-\frac{\sqrt{\sec^2 x+1}}{\sec^2 x-1}$ D) $\frac{\sqrt{\sec^2 x-1}}{\sec^2 x+1}$ E) $-\frac{1}{\sec^2 x-1}$	Trigonometric Functions of Angles.
If $\csc\theta = \frac{x+1}{x}, x > 0$, then $\cot\theta =$ A) $\frac{\sqrt{1+2x}}{x}$ B) $\frac{\sqrt{2x-1}}{x}$ C) $\frac{\sqrt{x^2+2x}}{x}$ D) $\frac{\sqrt{2x^2+2x+1}}{x}$ E) $\frac{1}{x}$	Trigonometric Functions of Angles.
If $\cot\theta = u$ and θ is in the third quadrant, then $\cot\theta\sec\theta =$ A) $-\sqrt{1+u^2}$ B) $\sqrt{1+u^2}$ C) $\sqrt{1-u^2}$ D) $-\sqrt{1-u^2}$ E) $\sqrt{u^2-1}$	Trigonometric Functions of Angles.

If $\cot\theta = m$, where $\pi < \theta < \frac{3\pi}{2}$, then $\cos\theta$ is equal to A) $-\frac{m\sqrt{1+m^2}}{1+m^2}$ B) $-\frac{m\sqrt{1-m^2}}{1-m^2}$ C) $\frac{-\sqrt{1-m^2}}{1-m^2}$ D) $\frac{-\sqrt{1+m^2}}{1+m^2}$ E) $\sqrt{1-m^2}$	Trigonometric Functions of Angles.
If $\cos\theta = -\frac{2}{3}$, $\sin\theta < 0$, then $\csc\theta + \tan\theta$ A) $-\frac{\sqrt{5}}{10}$ B) $\frac{11\sqrt{5}}{10}$ C) $-\frac{\sqrt{13}}{10}$ D) $\frac{3\sqrt{5}}{10}$ E) $-\frac{7\sqrt{5}}{10}$	Trigonometric Functions of Angles.
If $\tan\theta = \frac{3}{4}$, where θ is in the third quadrant, then $\csc\theta =$ A) $-\frac{5}{3}$ B) $\frac{5}{3}$ C) $-\frac{13}{5}$ D) $-\frac{5}{4}$ E) $\frac{5}{4}$	Trigonometric Functions of Angles.

Which one of the following statements is possible? A) $\tan\theta = -\frac{\sqrt{3}}{2}$ and $\sec\theta = \frac{\sqrt{7}}{2}$ B) $\sin\theta = \frac{\pi}{2}$ C) $\csc\theta = -\frac{1}{2}$ and $\sin\theta = -2$ D) $\cos\theta = -\frac{3}{2}$ and $\sec\theta = -\frac{2}{3}$ E) $\sec\theta = 0$	Trigonometric Functions of Angles.
If $\cot\theta = \frac{1}{2}$ where $\pi < \theta < \frac{3\pi}{2}$, then $\sin\theta - \cos\theta =$ A) $-\frac{\sqrt{5}}{5}$ B) $-\frac{2\sqrt{5}}{5}$ C) $\frac{3\sqrt{5}}{5}$ D) $\frac{2\sqrt{5}}{5}$ E) $-\frac{3\sqrt{5}}{5}$	Trigonometric Functions of Angles.
Which one of the following statements is FALSE for any angle α in the domain of the functions? A) $\sin\alpha + \cos\alpha = 1$ B) $-1 \le \sin\alpha \le 1$ C) $1 \le \lvert\sec\alpha\rvert$ D) $1 \le \lvert\csc\alpha\rvert$ E) $-\infty < \tan\alpha < \infty$	Trigonometric Functions of Angles.

If $\tan\theta = -\frac{5}{3}$ and θ is in the second quadrant, then $\frac{\csc\theta - \cot\theta}{\cos\theta} =$ A) $-\frac{34+3\sqrt{34}}{15}$ B) $\frac{3+\sqrt{34}}{15}$ C) $-\frac{\sqrt{34}}{15}$ D) $\frac{3\sqrt{34}-34}{34}$ E) $\frac{34}{9} - \frac{\sqrt{34}}{5}$	Trigonometric Functions of Angles.
The exact value of $-\tan(780^\circ)\sin(570^\circ) - \sec(-585^\circ)$ is A) $\frac{\sqrt{3}+2\sqrt{2}}{2}$ B) $\frac{\sqrt{3}-2\sqrt{2}}{2}$ C) $\frac{2\sqrt{3}-3\sqrt{2}}{2}$ D) $\frac{\sqrt{3}-\sqrt{2}}{2}$ E) $\frac{\sqrt{3}+\sqrt{2}}{2}$	Trigonometric Functions of Angles.
Which one of the following statements is TRUE? A) If $\tan\theta = \sqrt{3}$ and θ is in Quadrant III, then $\cos\theta = -\frac{1}{2}$. B) If $\cot\theta = 2$, then $\sin\theta = 2$ and $\cos\theta = 1$. C) If $\sec\theta > 0$ and $\csc\theta > 0$, then θ lies in Quadrant II. D) If $90^\circ < \theta < 180^\circ$, then $\sin(2\theta)$ is positive. E) If $\sec\theta = \frac{10}{3}$, then $\sin\theta = \frac{3}{10}$.	Trigonometric Functions of Angles.

If $\cot\theta = \frac{2}{\sqrt{5}}, \sec\theta < 0$, then $\sin\theta\cos\theta =$ A) $\frac{2\sqrt{5}}{9}$ B) $2\sqrt{5}$ C) $-\frac{2\sqrt{5}}{9}$ D) $\frac{\sqrt{5}}{3}$ E) $-\frac{\sqrt{5}}{9}$	Trigonometric Functions of Angles.
$\sec\left(-\frac{23\pi}{6}\right)\cot\left(\frac{16\pi}{3}\right) =$ A) $\frac{2}{3}$ B) $-\frac{2}{3}$ C) 2 D) $-\frac{3}{2}$ E) -3	Trigonometric Functions of Angles.
The exact value of $\tan\left(-\frac{7\pi}{6}\right) + \sec\left(-\frac{\pi}{6}\right)$ is equal to (a) $\frac{\sqrt{3}}{3}$ (b) $-\frac{\sqrt{3}}{3}$ (c) $-\frac{3\sqrt{3}}{2}$ (d) $-\frac{2\sqrt{3}}{3}$ (e) $\frac{\sqrt{3}}{2}$	Trigonometric Functions of Angles.

The value of $\cot\left(-\frac{17\pi}{3}\right) + \sin\left(\frac{11\pi}{6}\right) =$ A) $\frac{2\sqrt{3}-3}{6}$ B) $\frac{2\sqrt{3}+1}{3}$ C) $\frac{\sqrt{3}-3}{3}$ D) $\frac{2\sqrt{3}-1}{6}$ E) $\frac{\sqrt{3}+2}{2}$	Trigonometric Functions of Angles.
$\tan(570°) + \csc(-1020°) =$ A) $\sqrt{3}$ B) $-\sqrt{3}$ C) $-\frac{\sqrt{3}}{3}$ D) $\frac{\sqrt{3}}{3}$ E) $\sqrt{3} + 2$	Trigonometric Functions of Angles.
If $u = \sin 780°$ and $v = \cot(-950°) + \tan 220°$, then $4(u^2 + v) =$ A) 3 B) $\sqrt{3}$ C) $3 + 4\cot 40°$ D) $\sqrt{3} + 4\tan 40°$ E) -1	Trigonometric Functions of Angles.

If $\tan\theta = -\frac{2\sqrt{5}}{5}$ and $\sec\theta = -\frac{3\sqrt{5}}{5}$ then, $12\csc\theta =$ A) 18 B) 8 C) -18 D) -8 E) $-3\sqrt{5}$	Trigonometric Functions of Angles.
$\sqrt{3}\tan(750°) + 2\sec(-300°) =$ A) 5 B) -3 C) 7 D) -1 E) 2	Trigonometric Functions of Angles.
If $\cos 160° = \text{A}$, then $\cos 340° + \sec 200°$ equals to A) $\frac{1-\text{A}^2}{\text{A}}$ B) $\frac{1+\text{A}^2}{\text{A}}$ C) $\frac{\text{A}^2-1}{\text{A}}$ D) $\frac{1}{\text{A}}$ E) $\text{A}^2 + 1$	Trigonometric Functions of Angles.

The exact value of $\sec(-480°) - \cot\frac{3\pi}{4}$ is A) - 1 B) -3 C) $\frac{3-2\sqrt{3}}{3}$ D) 3 E) $\frac{3+2\sqrt{3}}{3}$	Trigonometric Functions of Angles.
$\sec\frac{25\pi}{6} - \tan(-510°) =$ A) $\frac{\sqrt{3}}{3}$ B) $\frac{2\sqrt{3}}{3}$ C) $\sqrt{3}$ D) $-\frac{\sqrt{3}}{3}$ E) $-\frac{2\sqrt{3}}{3}$	Trigonometric Functions of Angles.
$\tan\left(\frac{23\pi}{6}\right) + \csc\left(\frac{11\pi}{6}\right) =$ A) $\frac{-\sqrt{3}-6}{3}$ B) $\frac{-\sqrt{3}+6}{3}$ C) $\frac{-2\sqrt{3}-3}{6}$ D) $\frac{\sqrt{3}+2}{3}$ E) $\frac{\sqrt{3}-2}{3}$	Trigonometric Functions of Angles.

If α is the reference angle of $-30°$ and β is the smallest positive coterminal angle of $-670°$, then $\alpha + \beta =$ A) $80°$ B) $380°$ C) $110°$ D) $200°$ E) $20°$	Trigonometric Functions of Angles.
If $\alpha = 475°$ and $\beta = -\frac{11\pi}{6}$ are two angles in standard position, $2\alpha + \beta$ is in the A) third quadrant B) first quadrant C) second quadrant D) fourth quadrant E) quadrantal angle	Trigonometric Functions of Angles.
If $\pi < \theta < \frac{3\pi}{2}$ and $\cot\theta = \frac{3\sqrt{7}}{7}$, then $\cos\theta =$ A) $-\frac{3}{4}$ B) $-\frac{4}{3}$ C) $\frac{\sqrt{7}}{4}$ D) $-\frac{\sqrt{7}}{3}$ E) $\frac{3}{4}$	Trigonometric Functions of Angles.

The exact value of $\tan(675°)\cos(-240°) - \csc(495°)$ is A) $\frac{1-2\sqrt{2}}{2}$ B) $\frac{1+2\sqrt{2}}{2}$ C) $\frac{-1-2\sqrt{2}}{2}$ D) $\frac{1-\sqrt{2}}{2}$ E) $\frac{1+\sqrt{2}}{2}$	Trigonometric Functions of Angles.
$\tan\left(-\frac{5\pi}{3}\right) + \csc\left(\frac{23\pi}{6}\right) =$ A) $\sqrt{3} - 2$ B) $\sqrt{3} + 2$ C) $2 - \sqrt{3}$ D) $\frac{\sqrt{3}+2}{2}$ E) $\frac{\sqrt{3}-2}{2}$	Trigonometric Functions of Angles.
The exact value of $\sec\left(-\frac{19\pi}{4}\right) \cdot \tan\left(\frac{17\pi}{3}\right) + \csc\left(\frac{11\pi}{6}\right)$ is equal to A) $\sqrt{6} - 2$ B) $\frac{\sqrt{6}-6}{3}$ C) $\frac{2\sqrt{6}-1}{2}$ D) $-\sqrt{6} + 2$ E) $-\sqrt{6} - 2$	Trigonometric Functions of Angles.

Which one of the following statements is TRUE for $-90° < \theta < 90°$. A) $\sec(\theta - 180°)$ is negative B) $\cos\frac{\theta}{2}$ is negative C) $\cos(\theta + 180°)$ is positive D) $\sin(\theta - 90°)$ is positive E) $\sec(-\theta)$ is negative	Trigonometric Functions of Angles.
$\sec(480°) =$ A) $-\frac{2\sqrt{3}}{3}$ B) 2 C) $\frac{2\sqrt{3}}{3}$ D) -2 E) -1	Trigonometric Functions of Angles.
$4\sin(-870°) + \tan 143° + \cot 53° =$ A) -2 B) 2 C) $2\sqrt{3}$ D) $-2\sqrt{3}$ E) $2\sqrt{2}$	Trigonometric Functions of Angles.

$4\sin(-510^\circ)\cos 300^\circ + \cot 199^\circ - \tan 251^\circ =$ A) -1 B) 1 C) $1 - 2\sqrt{3}$ D) $-1 + 2\sqrt{3}$ E) $-1 - 2\sqrt{3}$	Trigonometric Functions of Angles.
Which one of the following statements is TRUE? A) $\sec(-89)^\circ > 0$ B) $\cot(-100)^\circ < 0$ C) $\cos 178^\circ > 0$ D) $\tan 340^\circ > 0$ E) $\sin 370^\circ < 0$	Trigonometric Functions of Angles.
Which one of the following statements is FALSE? A) $(\sin\theta + \cos\theta)^2 = 1$ for all angles θ. B) If $90^\circ < \theta < 180^\circ$, then $\cot\left(\frac{\theta}{2}\right)$ is positive C) If $\sec\theta < 0$ and $\csc\theta < 0$, then θ lies in Quadrant III. D) If $\tan\theta < 0$ and $\cot\theta < 0$, then θ lies in Quadrant II or IV. E) If $\csc\theta = 2$ and θ in quadrant II, then $\cos\theta = -\frac{\sqrt{3}}{2}$	Trigonometric Functions of Angles.

$\cos\left(\frac{7\pi}{4}\right)\tan\left(\frac{4\pi}{3}\right)+\cos\left(\frac{7\pi}{6}\right)=$ A) $\frac{\sqrt{6}-\sqrt{3}}{2}$ B) $\frac{\sqrt{6}+\sqrt{3}}{2}$ C) $\frac{\sqrt{2}+\sqrt{3}}{2}$ D) $\frac{\sqrt{2}-\sqrt{3}}{2}$ E) $\frac{\sqrt{6}-\sqrt{3}}{4}$	Trigonometric Functions of Angles.
The exact value of $\sec(-480°)+\csc\left(\frac{71\pi}{6}\right)$ is A) -4 B) $-\frac{1}{2}$ C) - 2 D) $-\frac{1}{4}$ E) -3	Trigonometric Functions of Angles.
The value of $\sin 150° + \tan\frac{5\pi}{4} + \sec 300°$ is A) $\frac{7}{2}$ B) $\frac{3}{2}$ C) $\frac{5-\sqrt{2}}{2}$ D) $\frac{1}{2}$	Trigonometric Functions of Angles.

The exact value of $\sin(-210^\circ) + \cot(735^\circ) + \tan(285^\circ)$ is A) $\frac{1}{2}$ B) $\frac{\sqrt{2}}{2}$ C) $-\frac{\sqrt{3}}{2}$ D) $-\frac{1}{2}$ E) $\frac{\sqrt{3}}{2}$	Trigonometric Functions of Angles.
If $2\sin\theta = -3\cos\theta, \frac{3\pi}{2} < \theta < 2\pi$, then $\sin\theta - \cos\theta =$ A) $-\frac{5}{\sqrt{13}}$ B) $\frac{5}{\sqrt{13}}$ C) $-\frac{1}{\sqrt{13}}$ D) $\frac{1}{\sqrt{13}}$ E) -1	Trigonometric Functions of Angles.
The value of $\cos(-510^\circ)\csc(300^\circ) + \tan\left(-\frac{9\pi}{4}\right)$ is (a) 0 (b) $\sqrt{3} - 1$ (c) -2 (d) $\frac{4}{3}$ (e) $\frac{3}{4}$	Trigonometric Functions of Angles.

$4\sin(-510°)\cos 300° + \cot 199° - \tan 251° =$ A) -1 B) 1 C) $1 - 2\sqrt{3}$ D) $-1 + 2\sqrt{3}$ E) $-1 - 2\sqrt{3}$	Trigonometric Functions of Angles.
If $\tan 20° = a$, then $\tan 160° + \tan(-380°) =$ A) $-2a$ B) 0 C) $2a$ D) $\sqrt{1 + a^2}$ E) $\frac{1-a}{a}$	Trigonometric Functions of Angles.
If $\tan 324° = x$, then $\csc 36° =$ A) $-\frac{\sqrt{x^2+1}}{x}$ B) $\frac{\sqrt{x^2+1}}{x}$ C) $\sqrt{x^2 + 1}$ D) $-\sqrt{x^2 + 1}$ E) $\frac{1}{x}$	Trigonometric Functions of Angles.

If $\sec\frac{9\pi}{5} = x$, then $\tan\frac{\pi}{5} =$ A) $\sqrt{x-1}$ B) $\frac{\sqrt{x^2-1}}{x}$ C) $\sqrt{x^2-1}$ D) $\sqrt{x+1}$ E) $\sqrt{x^2+1}$	Trigonometric Functions of Angles.
For any angle θ, which one of the following is not possible? A) $\cos\theta = -\frac{4}{3}$ and $\sec\theta = -\frac{3}{4}$ B) $\sin^2(-\theta) + \cos^2(-\theta) = 1$ C) $\tan\theta = 4$ and $\cot\theta = \frac{1}{4}$ D) $\cot^2\theta = \csc^2\theta - 1$ E) $\csc\theta = -5$	Trigonometric Functions of Angles.
The exact value of $\sec\frac{23\pi}{6}\cot\frac{13\pi}{3} - \sin\frac{7\pi}{4}$ is equal to A) $\frac{4+3\sqrt{2}}{6}$ B) $\frac{4-3\sqrt{2}}{6}$ C) $-\frac{4+3\sqrt{2}}{6}$ D) $\frac{3\sqrt{2}-4}{6}$ E) $\frac{4+\sqrt{2}}{2}$	Trigonometric Functions of Angles.

$\sin\left(\frac{7\pi}{4}\right)\tan 600° + \cos\left(-\frac{7\pi}{6}\right) =$ A) $-\frac{\sqrt{3}}{2}(\sqrt{2}+1)$ B) $\frac{\sqrt{3}}{2}(\sqrt{2}-1)$ C) $\frac{\sqrt{3}}{2}(1-\sqrt{2})$ D) $\frac{\sqrt{3}}{2}(\sqrt{2}+1)$ E) $-\frac{\sqrt{2}}{2}(\sqrt{3}+1)$	Trigonometric Functions of Angles.
If $-90° < \theta < 90°$, then A) $\sin(\theta + 90°) > 0$ and $\sec\frac{\theta}{2} > 0$ B) $\sin(\theta + 90°) < 0$ and $\sec\frac{\theta}{2} > 0$ C) $\sin(\theta + 90°) > 0$ and $\sec\frac{\theta}{2} < 0$ D) $\sin(\theta + 90°) < 0$ and $\sec\frac{\theta}{2} < 0$ E) $\tan\theta < 0$ and $\cos\theta > 0$	Trigonometric Functions of Angles.
The exact value of $\csc(225°)\cdot\tan(-240°) + \sin 150°$ is (a) $\frac{1}{2}+\sqrt{6}$ (b) $\sqrt{3}+\frac{1}{2}$ (c) $\frac{\sqrt{2}+2\sqrt{3}}{\sqrt{3}}$ (d) $\frac{\sqrt{6}+4\sqrt{3}}{\sqrt{2}}$ (e) $\sqrt{6}+2\sqrt{3}$	Trigonometric Functions of Angles.

If $\tan(71°) = b$, then $\csc^2(19°) + 1 =$ A) $b^2 + 2$ B) $b^2 + 1$ C) 1 D) b^2 E) $b^2 - 1$	Trigonometric Functions of Angles.
$\cos\frac{17\pi}{4} - \tan 765° \csc\frac{11\pi}{6} =$ A) $\frac{\sqrt{2}+4}{2}$ B) $4\sqrt{2}$ C) $\frac{\sqrt{2}-4}{4}$ D) $\frac{\sqrt{3}+1}{2}$ E) $\frac{2\sqrt{2}}{3}$	Trigonometric Functions of Angles.
$\sin\left(-\frac{7\pi}{4}\right) + \tan(870°)$ A) $\frac{3\sqrt{2}-2\sqrt{3}}{6}$ B) $\frac{3}{2}$ C) $\frac{3\sqrt{2}+2\sqrt{3}}{6}$ D) $\frac{2\sqrt{2}-3\sqrt{3}}{6}$ E) $\frac{-3\sqrt{2}-2\sqrt{3}}{6}$	Trigonometric Functions of Angles.

If $\tan(24°) = \text{t}$ then $\tan(516°) + \cot(156°) =$ A) $\frac{-t^2-1}{t}$ B) $\frac{t^2-1}{t}$ C) $\frac{t^2+1}{t}$ D) $\frac{-t-1}{t}$ E) $\frac{t+1}{t}$	Trigonometric Functions of Angles.
Which one of the following statements is TRUE? (a) If $90° < \theta < 180°$ then, $\sin(2\theta)$ is negative. (b) $\sin\theta + \cos\theta = 1$ for all θ. (c) If $\cot\theta = \frac{1}{2}$, then $\sin\theta = 1$ and $\cos\theta = 2$. (d) $\sec\theta = -0.3$, for some θ where $\frac{\pi}{2} < \theta < \pi$. (e) If $\sec\theta > 0$, $\csc\theta > 0$, then θ is in the second quadrant.	Trigonometric Functions of Angles.
Which one of the following statements is FALSE? A) If $90° \leq \theta \leq 180°$ then $\tan\left(\frac{\theta}{2}\right)$ is negative. B) If $\tan\theta = \frac{1}{2}$ then the terminal side of θ lies in quadrant I or quadrant III . C) The range of $\tan\theta$ is $(-\infty, \infty)$. D) If $0 \leq \theta < \frac{\pi}{2}$, then $\tan^2\theta = \sec^2\theta - 1$. E) If $\tan(-15°) = \beta$ then, $\tan(15°) = -\beta$.	Trigonometric Functions of Angles.

Which one of the following statements is FALSE? A) If $0 \leq \theta < \frac{\pi}{2}$ and $\tan\theta = \frac{1}{2}$, then $\sin\theta = 1$ and $\cos\theta = 2$ B) If $0 \leq \theta < \frac{\pi}{2}$, then $\sec^2\theta - \tan^2\theta = 1$ C) If $0 \leq \theta < \frac{\pi}{2}$, then $\sin\left(\frac{\theta}{2}\right)$ is positive D) The range of $\tan\theta$ is $(-\infty, \infty)$ E) $\sin\left(-\frac{\pi}{3}\right) = \sin\left(\frac{5\pi}{3}\right)$	Trigonometric Functions of Angles.
Decide which one of the following statements is possible. A) $\cot\theta = 0.93$ B) $\cos\theta = -\frac{4}{3}$ C) $\tan\theta = \frac{3}{2}$ and $\cot\theta = -\frac{3}{2}$ D) $\csc\theta = -\frac{1}{2}$ and $\sin\theta = -2$ E) $\sec\theta = -0.3$	Trigonometric Functions of Angles.
$\tan(420^\circ) + \sec(495^\circ)\csc(225^\circ) =$ A) $\sqrt{3} + 2$ B) $-\sqrt{3} + 2$ C) $-\sqrt{3} - 2$ D) $\frac{\sqrt{3}}{3} + 2$ E) $-\frac{\sqrt{3}}{3} + \frac{1}{2}$	Trigonometric Functions of Angles.

If α is the least positive coterminal angle with the angle $\frac{65\pi}{9}$, and β is the reference angle of the angle $\frac{5\pi}{9}$, then $\alpha + \beta =$ A) $\frac{5\pi}{3}$ B) $\frac{11\pi}{9}$ C) $\frac{\pi}{9}$ D) $\frac{-\pi}{9}$ E) $\frac{13\pi}{9}$	Reference & Co-terminal Angles.
The reference angle of $\theta = \frac{11\pi}{15}$, in degrees, is equal to A) $48°$ B) $32°$ C) $49°$ D) $38°$ E) $35°$	Reference & Co-terminal Angles.
If R is the reference angle of $1945°$ and Q is the smallest positive coterminal angle of $-950°$, then $\mathrm{R} + \mathrm{Q}$ A) $165°$ B) $155°$ C) $175°$ D) $275°$ E) $255°$	Reference & Co-terminal Angles.

If the reference angle of 10 radians is $10 - n\pi$, then $n =$ A) 3 B) 6 C) 4 D) 7 E) 5	Reference & Co-terminal Angles.
The reference angle of the angle $\theta = \frac{25\pi}{7}$ is equal to A) $\frac{3\pi}{7}$ B) $\frac{2\pi}{7}$ C) $\frac{5\pi}{7}$ D) $\frac{\pi}{7}$ E) $\frac{4\pi}{7}$	Reference & Co-terminal Angles.
The smallest positive coterminal angle of $\theta = \frac{23\pi}{7}$ is A) in the third quadrant B) in the first quadrant C) in the fourth quadrant D) a quadrantal angle E) in the second quadrant	Reference & Co-terminal Angles.

The sum of all coterminal angles with $\frac{2\pi}{3}$ between 2π and 6π is A) $\frac{22\pi}{3}$ B) $\frac{21\pi}{3}$ C) $\frac{20\pi}{3}$ D) $\frac{13\pi}{3}$ E) $\frac{31\pi}{3}$	Reference & Co-terminal Angles.
The reference angle of $\theta = 16$ radians is equal to A) $16 - 5\pi$ B) $5\pi - 16$ C) $16 - 4\pi$ D) $4\pi - 16$ E) $6\pi - 16$	Reference Angles.
The reference angle of the angle $\theta = 1225°$ is A) $35°$ B) $65°$ C) $55°$ D) $45°$ E) $25°$	Reference Angles.

The reference angle α', in radians, of the angle $\alpha = 920°$ is equal to: A) $\frac{\pi}{9}$ B) $\frac{\pi}{3}$ C) $\frac{\pi}{5}$ D) $\frac{\pi}{10}$ E) $\frac{\pi}{6}$	Reference Angles.
The reference angle of $\theta = 2$ radians is equal to A) $\pi - 2$ B) $2 - \pi$ C) $2 + \pi$ D) $2\pi - 2$ E) $\frac{\pi}{2} - 2$	Reference Angles.
The reference angle of $-115°$ is A) $65°$ B) $55°$ C) $75°$ D) $45°$ E) $25°$	Reference Angles.

The greatest negative angle that is coterminal with $\frac{27\pi}{5}$ is A) $-\frac{3\pi}{5}$ B) $-\pi$ C) $-\frac{2\pi}{5}$ D) $-\frac{4\pi}{5}$ E) $-\frac{\pi}{5}$	Reference & Co-terminal Angles.
If α is the smallest positive coterminal angle of $\frac{57\pi}{2}$ and β is reference angle of $1270°$, then $\alpha + \beta =$ A) $100°$ B) $180°$ C) $190°$ D) $280°$ E) $210°$	Reference & Co-terminal Angles.
If α is the reference angle of $845°$ and β is the least positive coterminal of $-705°$, then $\alpha + \beta =$ A) $70°$ B) $80°$ C) $180°$ D) $160°$ E) $150°$	Reference & Co-terminal Angles.

If $\theta = \frac{13\pi}{18}$, then the degree measure of the reference angle of θ is (A) $50°$ B) $60°$ C) $45°$ D) $70°$ E) $36°$	Reference & Co-terminal Angles.
If α' is the reference angle of $\alpha = -4$ and β' is the reference of $\beta = 7$ then $\alpha' + \beta' =$ A) $3 - 2\pi$ B) $3 - \pi$ C) $11 - 3\pi$ D) $11 - 2\pi$ E) $2\pi - 3$	Reference & Co-terminal Angles.
The value of $2 - \sin^2(40°) - \sin^2(50°)$ is A) -3 B) 0 C) 3 D) 1 E) -1	Reference & Co-terminal Angles.

The value of $1 - \cos^2(20°) - \cos^2(70°)$ is A) $\cos^2(90°)$ B) $\sin^2(90°)$ C) $\sin^2(70°)$ D) $1 - \sin^2(20°)$ E) $\sin^2(20°) - \cos^2(20°)$	Co-function Identities.
Let the point $(\text{k}, -2)$ lie on the terminal side of angle θ in standard position. If $\csc\theta = -3$, where $\cos\theta > 0$, then the value of k is equal to A) $4\sqrt{2}$ B) $-4\sqrt{2}$ C) $2\sqrt{2}$ D) $-2\sqrt{2}$ E) $-\sqrt{2}$	Trigonometric Functions of Angles.
If the terminal side of an angle θ, in standard position, is in quadrant III and has slope equal $\frac{1}{2}$, then $\sin\theta + \cos\theta =$ A) $-\frac{3\sqrt{5}}{5}$ B) $-\frac{\sqrt{5}}{5}$ C) $\sqrt{5}$ D) $-\frac{2\sqrt{3}}{5}$ E) $\sqrt{3}$	Trigonometric Functions of Angles

If $\tan\theta = 4$ and $P(-3, n)$ is a point on the terminal side of θ where θ is in standard position, then $\sec\theta =$ A) $\sqrt{17}$ B) $-\frac{5}{3}$ C) $-\sqrt{17}$ D) $-\frac{1}{4}$ E) $-\frac{\sqrt{17}}{4}$	Trigonometric Functions of Angles
If the terminal side of an angle θ in standard position is given by $Ax + y = 0, x < 0$ and $\sin\theta = \frac{1}{3}$, then $A =$ A) $\frac{\sqrt{2}}{4}$ B) $-\frac{\sqrt{2}}{4}$ C) $\frac{3\sqrt{2}}{2}$ D) 1 E) $\frac{3\sqrt{2}}{8}$	Trigonometric Functions of Angles

If the point $\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$ is on the terminal side of the angle θ in standard position, then $\tan\theta =$ A) $-\frac{\sqrt{3}}{3}$ B) -2 C) $-\sqrt{3}$ D) $-\frac{2\sqrt{3}}{3}$ E) $-\frac{\sqrt{3}}{2}$	Trigonometric Functions of Angles
If the terminal side of an angle θ, in standard position, is defined by $x - 2y = 0, x > 0$, then $\sec\theta =$ A) $\frac{2\sqrt{5}}{5}$ B) $\frac{\sqrt{5}}{2}$ C) $\frac{1}{2}$ D) $\sqrt{5}$ E) $\frac{5}{2}$	Trigonometric Functions of Angles
If the terminal side of an angle θ in standard position is defined by $3x + 2y = 0, x \leq 0$, then $\csc\theta =$ A) $\frac{\sqrt{13}}{3}$ B) $-\sqrt{13}$ C) $\frac{3\sqrt{13}}{13}$ D) $-\frac{3\sqrt{13}}{13}$ E) $-\frac{\sqrt{13}}{3}$	Trigonometric Functions of Angles

If the terminal side of an angle θ in standard position is given by $3x - y = 0, x < 0$, then $\csc\theta =$ A) $-\frac{3\sqrt{10}}{10}$ B) $\frac{\sqrt{10}}{3}$ C) $\frac{3\sqrt{10}}{10}$ D) $-\frac{\sqrt{10}}{3}$ E) -3	Trigonometric Functions of Angles
Suppose that the terminal side of the angle θ in standard position is given by $12x - 5y = 0, x \leq 0$, then $\frac{60}{13}(\sec\theta + \csc\theta) =$ A) -17 B) -7 C) 7 D) -8 E) 17	Trigonometric Functions of Angles
If the equation of the terminal side of θ in standrad position is $x + 2y = 0, x \geq 0$, then $\sin\theta - \cos\theta =$ A) $-\frac{3\sqrt{5}}{5}$ B) $-\frac{\sqrt{5}}{5}$ C) $-\sqrt{5}$ D) $\frac{\sqrt{5}}{5}$ E) $\sqrt{5}$	Trigonometric Functions of Angles

If the equation of the terminal side of an angle θ in standard position is $4x + 3y = 0$, where $x < 0$, then $\csc\theta + \sec\theta =$ A) $-\frac{5}{12}$ B) $\frac{5}{12}$ C) $-\frac{7}{12}$ D) $\frac{7}{5}$ E) $-\frac{1}{5}$	Trigonometric Functions of Angles
If the point $(2, -3)$ is on the terminal side of the angle θ in the standard position, then $12\csc\theta + 4\sec\theta$ is equal to (A) $-2\sqrt{13}$ B) $-\sqrt{13}$ C) $\sqrt{13}$ D) $2\sqrt{13}$ E) $-\frac{18\sqrt{13}}{13}$	Trigonometric Functions of Angles
The equation of the terminal side of θ is given by $\sqrt{3}x + y = 0$, where $x \leq 0$, then $\csc\theta =$ A) $\frac{2\sqrt{3}}{3}$ B) $\frac{\sqrt{3}}{2}$ C) $-\frac{\sqrt{3}}{3}$ D) $-\frac{2\sqrt{3}}{3}$ E) $\frac{1}{2}$	Trigonometric Functions of Angles

If the equation of the terminal side of an angle θ in standard position is $4x - 3y = 0, x < 0$, then $4\csc\theta + 9\tan\theta =$ A) 7 B) -5 C) 11 D) -6 E) 10	Trigonometric Functions of Angles
If the terminal side of the angle θ in the standard position coincides with the line $\sqrt{3}x + y = 0$, with $x \leq 0$ then (a) $\cot\theta = -\frac{\sqrt{3}}{3}$ (b) $\tan\theta = \sqrt{3}$ (c) $\sin\theta = -\frac{1}{2}$ (d) $\cos\theta = \frac{\sqrt{3}}{2}$ (e) $\tan\theta = -2$	Trigonometric Functions of Angles
If $12x - 5y = 0, x \leq 0$, is the equation of the terminal side of an angle α, then $5\tan\alpha - 12\csc\alpha =$ A) 25 B) - 1 C) 15 D) 20 E) -25	Trigonometric Functions of Angles

Suppose that the terminal side of an angle θ in standard position lies on the line $y = -\frac{1}{2}x$ where $x > 0$, then $\sin\theta + \tan\theta =$ A) $-\frac{5+2\sqrt{5}}{10}$ B) $-\frac{10+\sqrt{5}}{5}$ C) $\frac{2-\sqrt{5}}{5}$ D) $-\frac{10-2\sqrt{5}}{10}$ E) $\frac{1-\sqrt{5}}{10}$	Trigonometric Functions of Angles
If $\sin\theta = \frac{1}{5}$, and $p(-3, k)$ is a point on the terminal side of θ in standard position, then the value of k is: A) $\frac{\sqrt{6}}{4}$ B) $-\frac{\sqrt{6}}{2}$ C) $-\frac{\sqrt{6}}{4}$ D) 1 E) $\frac{\sqrt{6}}{2}$	Trigonometric Functions of Angles
If the terminal side of the angle θ in standard position is defined by $6x + 8y = 0, y < 0$ then $10\cos\theta - 12\tan\theta =$ A) 17 B) -17 C) -1 D) 1 E) 24	Trigonometric Functions of Angles

If the angle $\theta = 12$ radian, then (a) θ is in the fourth quadrant (b) θ is a quadrantal angle (c) θ is in the first quadrant (d) θ is in the second quadrant (e) θ is in the third quadrant	Angles in radians
If $(a, -\frac{3}{4})$ is a point on a unit circle on the terminal side of an angle θ, in standard position, in quadrant III, then cos θ = A) $-\frac{\sqrt{7}}{4}$ B) $-\frac{\sqrt{7}}{2}$ C) $-\frac{a}{4}$ D) $-\frac{a}{2}$ E) $-\frac{5}{4}$	Trigonometric Functions of Angles