Name:
Period:
Date:

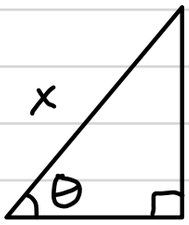
Practice Trigonometry Basics Test

Write the definitions of the 3 basic trig functions and the definitions of the reciprocal trig functions.

① $\sin\theta = \frac{opp}{hyp}$ ② $\cos\theta = \frac{adj}{hyp}$ ③ $\tan\theta = \frac{opp}{adj}$ ④ $\csc\theta = \frac{hyp}{opp}$

⑤ $\sec\theta = \frac{hyp}{adj}$ ⑥ $\cot\theta = \frac{adj}{opp}$

⑦

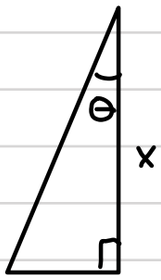


Find side x.

$x = 5$

$\sin\theta = \frac{4}{5}$ $\cos\theta = \frac{3}{5}$ $\tan\theta = \frac{4}{3}$

⑧



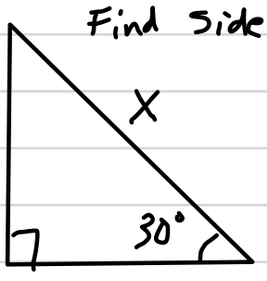
Find side x

$\cos\theta =$ $x = 8$

$\tan\theta = \frac{3}{8}$

$\sin\theta = \frac{3\sqrt{73}}{73}$ $\cos\theta = \frac{8\sqrt{73}}{73}$ $\tan\theta = \frac{3}{8}$

⑨



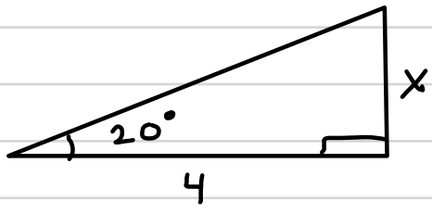
Find side x

$\cos 30° = \frac{6}{x}$

$x = \frac{6}{\cos 30°}$

$x = 6.93$

⑩



$\tan 20° = \frac{x}{4} \rightarrow 4 \cdot \tan 20° = x$

$x = 1.46$

Use a calculator to find each. Round to 3 decimal places.

⑪ $\sin 25° =$ .423

⑫ $\cos 19° =$ .946

⑬ $\tan 100° =$ -5.671

⑭ $\cot 120° = \frac{1}{\tan 120°} =$ -.577

⑮ $\sec 225° = \frac{1}{\cos 225°} =$ -1.414

⑯ $\csc 10° = \frac{1}{\sin 10°} =$ 5.759

Convert each angle

(17) 300°

$\frac{360}{300} = \frac{2\pi}{x}$

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

$6x = 10\pi$

$\frac{6x}{6} = \frac{10\pi}{6}$

$\boxed{x = \frac{5\pi}{3}}$

(18) 210°

$\frac{360}{210} = \frac{2\pi}{x}$

$\frac{12}{7} = \frac{2\pi}{x}$

$12x = 14\pi$

$\frac{12x}{12} = \frac{14\pi}{12}$

$\boxed{x = \frac{7\pi}{6}}$

(19) 90°

$\frac{360}{90} = \frac{2\pi}{x}$

$4 = \frac{2\pi}{x}$

$x = \frac{2\pi}{4}$

$\boxed{x = \frac{\pi}{2}}$

(20) 35°

$\frac{360}{35} = \frac{2\pi}{x}$

$360x = 70\pi$

$\frac{360x}{360} = \frac{70\pi}{360}$

$\boxed{x = \frac{7\pi}{36}}$

(21) $\frac{\pi}{6}$ radians

$\frac{360}{x} = \frac{2\pi}{\pi/6}$ $\left(\frac{6}{\pi}\right)$

$\frac{360}{x} = 12$

$\frac{360}{12} = x$

$\boxed{x = 30^\circ}$

(22) $\frac{5\pi}{9}$ radians

$\frac{360}{x} = \frac{2\pi}{5\pi/9}$ $\left(\frac{9}{5\pi}\right)$

$\frac{360}{x} = \frac{18}{5}$

$\frac{1800}{18} = \frac{18x}{18}$

$\boxed{100^\circ = x}$

(23) $\frac{8\pi}{3}$ radians

$\frac{360}{x} = \frac{2\pi}{8\pi/3}$ $\left(\frac{3}{8\pi}\right)$

$\frac{360}{x} = \frac{6}{8}$

$\frac{2880}{6} = \frac{6x}{6}$

$\boxed{x = 480^\circ}$

(24) 3.9 radians

$\frac{360}{x} = \frac{2\pi}{3.9}$

$\frac{1404}{2\pi} = \frac{2\pi x}{2\pi}$

$\boxed{223^\circ}$