

Test 2 (Ch. 3 & 4) Pretest

1. Evaluate each.

a) $\sin (150^\circ)$

b) $\cos (270^\circ)$

c) $\csc (90^\circ)$

d) $\cot (180^\circ)$

e) $\tan (495^\circ)$

f) $\sec (600^\circ)$

g) $\cos (-240^\circ)$

h) $\tan (-120^\circ)$

i) $\sec (90^\circ)$

j) $\tan (180^\circ)$

k) $\cos (150^\circ)$

l) $\sin (270^\circ)$

m) $\sin (-315^\circ)$

n) $\cot (-150^\circ)$

o) $\sec (510^\circ)$

p) $\csc (585^\circ)$

2. Evaluate each.

a) $\csc \left(\frac{2\pi}{3} \right)$

b) $\tan \left(-\frac{4\pi}{3} \right)$

c) $\cot \left(\frac{7\pi}{6} \right)$

d) $\cos \left(\frac{5\pi}{3} \right)$

e) $\csc (5\pi)$

f) $\sin \left(\frac{7\pi}{2} \right)$

g) $\cot \left(-\frac{7\pi}{4} \right)$

h) $\sin \left(\frac{3\pi}{4} \right)$

i) $\tan\left(\frac{7\pi}{6}\right)$

j) $\sec\left(\frac{5\pi}{3}\right)$

k) $\sin\left(\frac{2\pi}{3}\right)$

l) $\cot\left(-\frac{4\pi}{3}\right)$

m) $\sin\left(-\frac{7\pi}{6}\right)$

n) $\cos\left(\frac{3\pi}{2}\right)$

o) $\sec(5\pi)$

p) $\tan\left(\frac{7\pi}{2}\right)$

3. Use a conversion multiplier to find the radian or degree equivalent.

a) 200°

b) 15°

c) 72°

d) 27°

e) $\frac{7\pi}{9}$

f) $\frac{3\pi}{20}$

g) $\frac{11\pi}{30}$

h) $\frac{13\pi}{12}$

4. For each, based on the given information, find the value(s) of θ , $0^\circ \leq \theta < 360^\circ$.

a) $\sin \theta = -\frac{1}{2}$, θ in QIV

b) $\cos \theta = \frac{\sqrt{2}}{2}$, θ in QIV

c) $\tan \theta = -1$, θ in QII

d) $\csc \theta = -\frac{2\sqrt{3}}{3}$, θ in QIII

e) $\cot \theta = -\sqrt{3}$, θ in QIV

f) $\sec \theta = -2$, θ in QII

5. Given the following information, find t . Note: The restrictions on t are not necessarily the same for each exercise.

a) $\tan(t) = 1$, $0 \leq t \leq \pi$

b) $\cos(t) = \frac{\sqrt{2}}{2}$, $\pi \leq t \leq 2\pi$

c) $\cot(t) = \frac{\sqrt{3}}{3}$, $\frac{\pi}{2} \leq t \leq \frac{3\pi}{2}$

d) $\sec(t) = 1$, $\pi \leq t \leq 2\pi$

e) $\sin(t) = -\frac{\sqrt{3}}{2}$, $\frac{\pi}{2} \leq t \leq \frac{3\pi}{2}$

f) $\csc(t) = -2$, $\frac{\pi}{2} \leq t \leq \frac{3\pi}{2}$

7. Graph **two full periods** of each function. Mark each important value along the x - and y -axes.

a) $(x) = -2\cos\left(\frac{4}{5}x\right)$

a) Ampl:

b) Refl:

c) Freq:

d) Per:



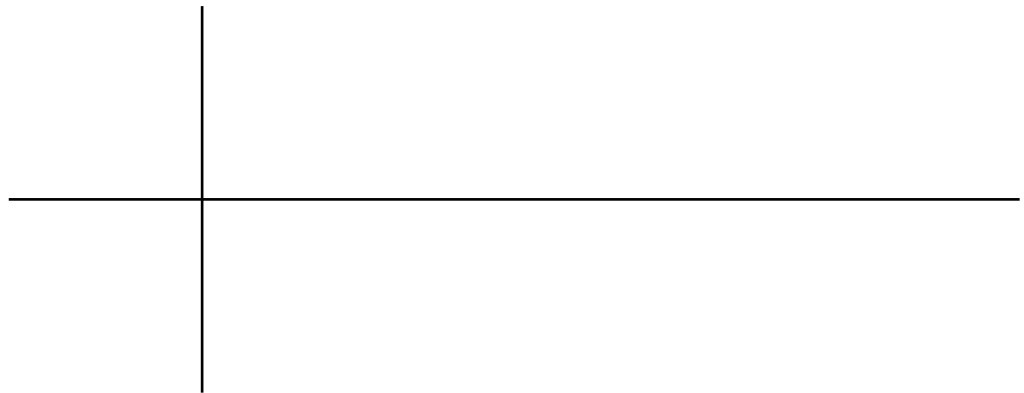
b) $(x) = -2\sin\left(\frac{2}{3}x\right)$

a) Ampl:

b) Refl:

c) Freq:

d) Per:



c) $f(x) = 3\csc\left(\frac{6}{5}x\right)$

For the guideline graph:

$g(x) =$

a) Ampl:

b) Refl:

c) Freq:

d) Per:



8. Graph **two full branches** of each function.

a) $f(x) = -\tan(3x)$

For the guideline graph:

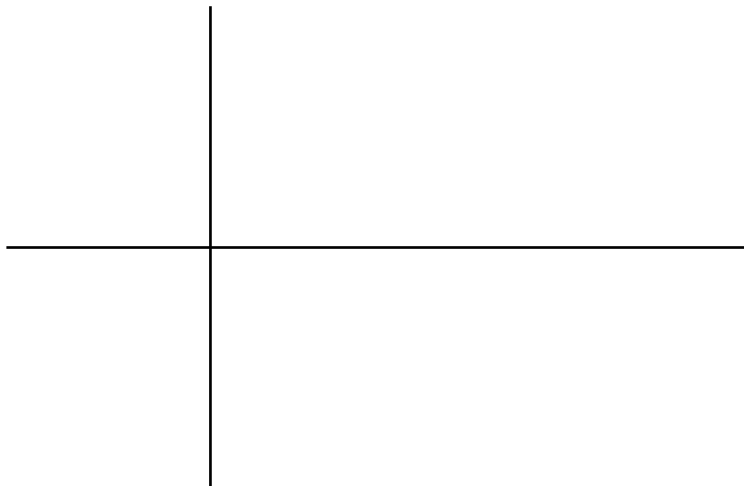
$g(x) =$

a) Reflected?

b) Freq:

c) Per:

d) What is the period of $f(x)$?



b) $f(x) = \cot\left(\frac{1}{2}x\right)$

For the guideline graph:

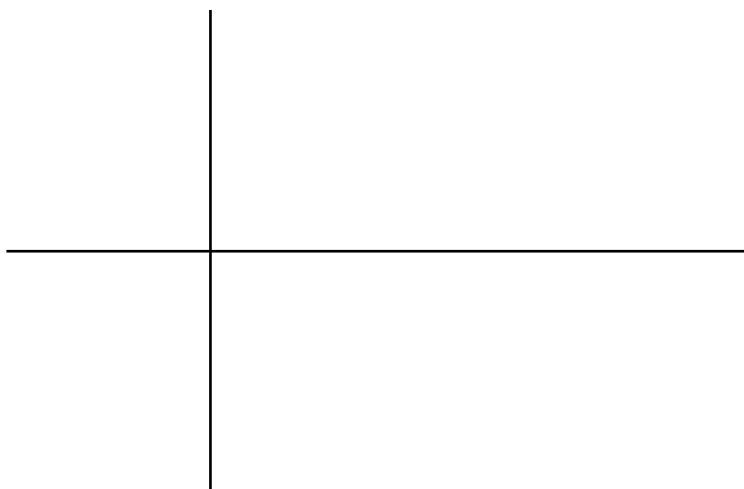
$g(x) =$

a) Reflected?

b) Freq:

c) Per:

d) What is the period of $f(x)$?



10. Given $f(t) = -3\cos(2t)$, find

a) $f\left(\frac{\pi}{2}\right)$

b) $f\left(\frac{2\pi}{3}\right)$

c) $f\left(\frac{5\pi}{8}\right)$

d) $f\left(\frac{11\pi}{12}\right)$

11. Given $f(t) = \csc\left(t + \frac{\pi}{2}\right)$ find

a) $f\left(\frac{\pi}{3}\right)$

b) $f\left(\frac{3\pi}{4}\right)$

c) $f\left(\frac{7\pi}{6}\right)$

d) $f\left(\frac{5\pi}{3}\right)$