

- [1] What is the period of $f(x) = -3 \sin(13\pi x - 2)$?
- [2] What is the phase shift of $f(x) = -3 \sin(13\pi x - 2)$?
- [3] What is the amplitude of $f(x) = -3 \sin(13\pi x - 2)$?
- [4] Simplify and evaluate $\sin\left(\frac{3\pi}{14}\right) \cos\left(\frac{2\pi}{7}\right) + \cos\left(\frac{3\pi}{14}\right) \sin\left(\frac{2\pi}{7}\right)$

For the next two problems:

$$\sin A = \frac{1}{3} \quad \text{with} \quad \frac{\pi}{2} < A < \pi \quad \text{and} \quad \sin B = -\frac{2}{7} \quad \text{with} \quad \pi < B < \frac{3\pi}{2}$$

- [5] Find the exact value of $\cos(A - B)$:
- [6] Find the exact value of $\sin(A - B)$:
- [7] Find the exact value of $\cos(-15^\circ)$:
- [8] Solve $\sin(x) \cos(x) = \frac{\sqrt{2}}{4}$.
- [9] Find all angles θ in the range $0^\circ \leq \theta \leq 360^\circ$ for which $\sin(\theta) = \sqrt{3} \cos(\theta)$.
- [10] Simplify $\cos^{-1}\left[\cos\left(\frac{5\pi}{4}\right)\right]$.
- [11] Solve $\sin^2(\theta) + 3 \sin(\theta) = -2$.
- [12] I want to construct a triangle with sides of length a, b, c opposite angles A, B, γ respectively.
If I want $a = 4, b = 5$ and $c = 12$: either find $\cos(A)$ or state that "No such triangle exists".
- [13] I want to construct a triangle with sides of length a, b, c opposite angles A, B, γ respectively.
If I want $a = 4, b = 5$ and $c = 2$: either find $\cos(A)$ or state that "No such triangle exists".
- [14] I want to construct a triangle with sides of length a, b, c opposite angles A, B, γ respectively.
If I want $\sin(A) = \frac{1}{10}, \sin(B) = \frac{1}{8}$ and $b = 5$; Find a .
- [15] Simplify $\cos\left[\cos^{-1}\left(\frac{5\pi}{40}\right)\right]$.

[16] I want to construct a triangle with sides of length a, b, c opposite angles A, B, γ respectively.

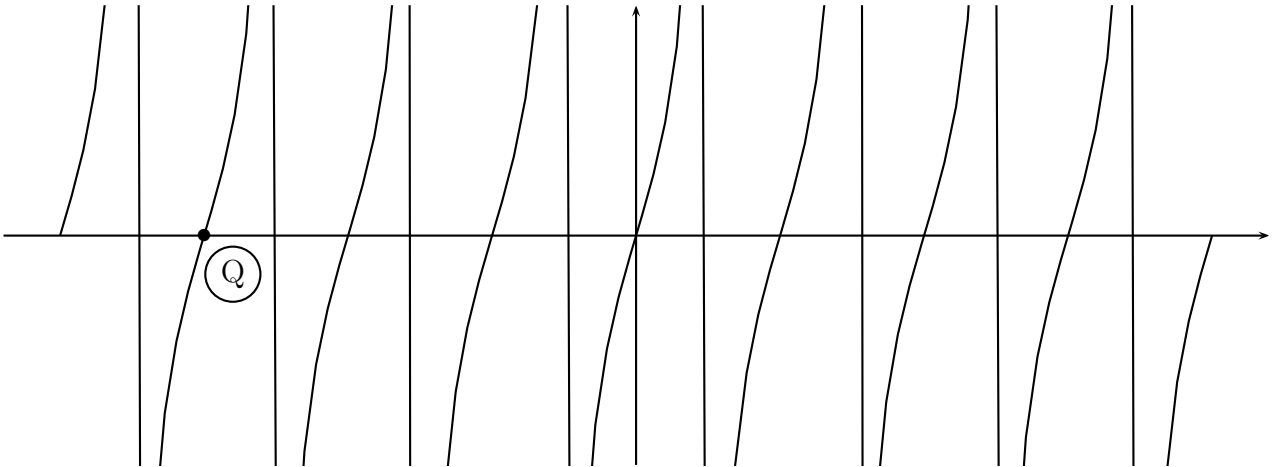
If I want $b = 5, a = 15$ and $B = \sin^{-1}(\frac{1}{6})$, give all possible values for A .

Hint: $\sin^{-1}(\frac{1}{6}) \simeq .05\pi$ and $\sin^{-1}(\frac{1}{2}) \simeq .17\pi$.

[17] Convert polar coordinates of $(6, \frac{\pi}{6})$ to rectangular coordinates:

[18] Find all possible polar coordinates for the point with rectangular coordinates $(6, -6)$.

[19] In the following graph of $y = \tan(x)$, give the coordinates of the point Q .



[20] What is the area of the triangle with sides $a = 4, b = 10$ and included angle $\theta = \frac{\pi}{6}$?