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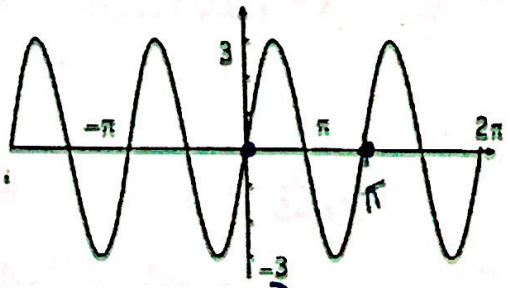
Name: _____ Graphing All Trig Functions:

Write an equation for each graph in terms of sin and cos:

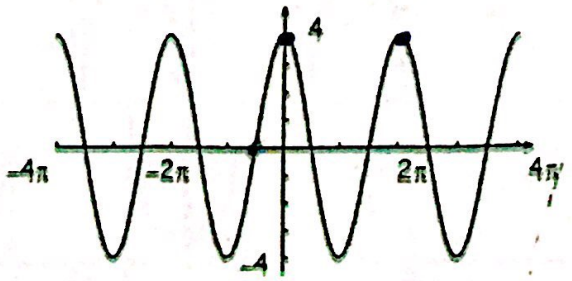
1) amp = 3 pd = π



$y = 3\sin(2x)$

$y = 3\cos(2(x - \pi/4))$

2) amp = 4 pd = 2π

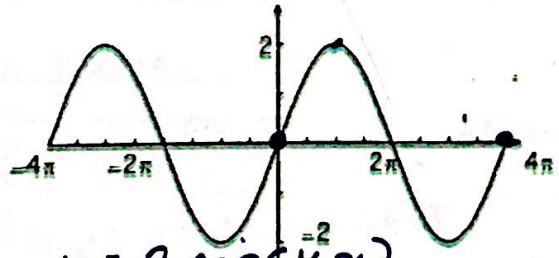


$y = 4\cos x$

$y = 4\sin(x + \pi/2)$

3)

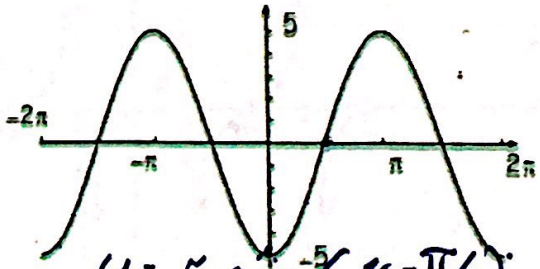
amp = 2 pd = 4π



$y = 2\sin(\frac{1}{2}x)$

$y = 2\cos(\frac{1}{2}(x - \pi))$

4) amp = 5 pd = 2π



$y = 5\sin(x - \pi/2)$

$y = -5\cos x$

Graph two complete periods each function, then state the Domain, Range, amplitude and period

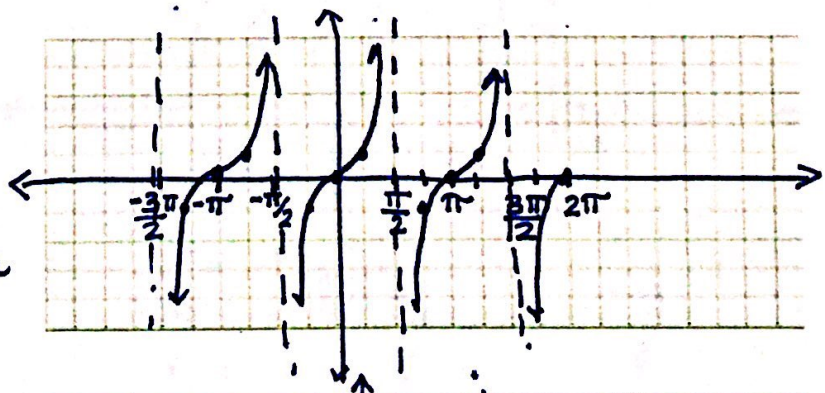
5) $y = tanx$

Amplitude: none

Period: π

Domain: $x \neq \pi/2 \pm \pi k$, k is any integer

Range: $(-\infty, \infty)$



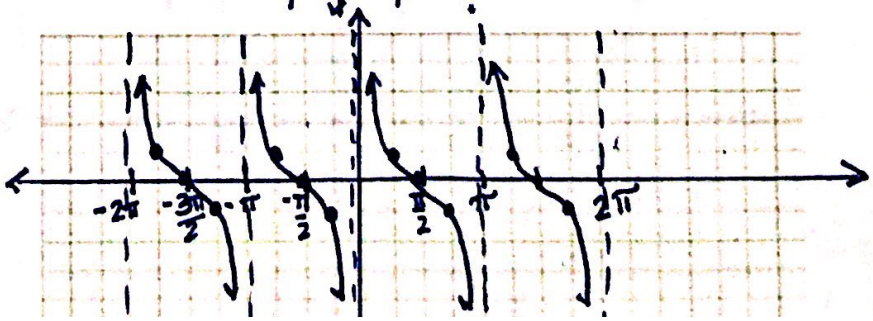
6) $y = cotx$

A: none

P: π

D: $x \neq 0 \pm \pi k$, k is any Integer

R: $(-\infty, \infty)$



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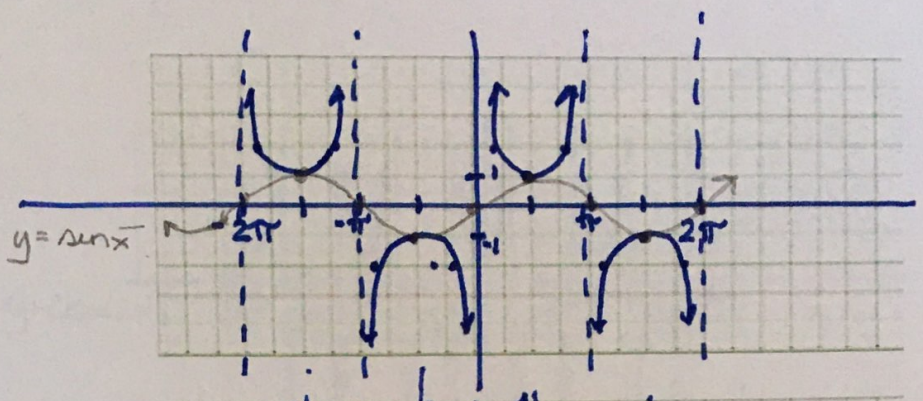
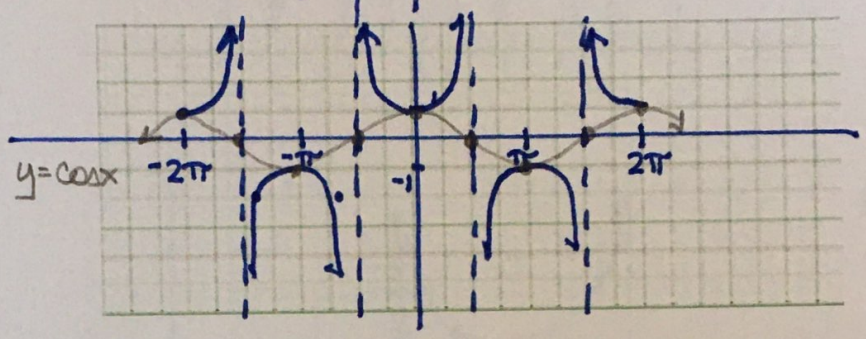
7) $y = \csc x = \frac{1}{\sin x}$

A: none
P: 2π
D: $x \neq 0 \pm \pi k$
R: $(-\infty, -1] \cup [1, \infty)$



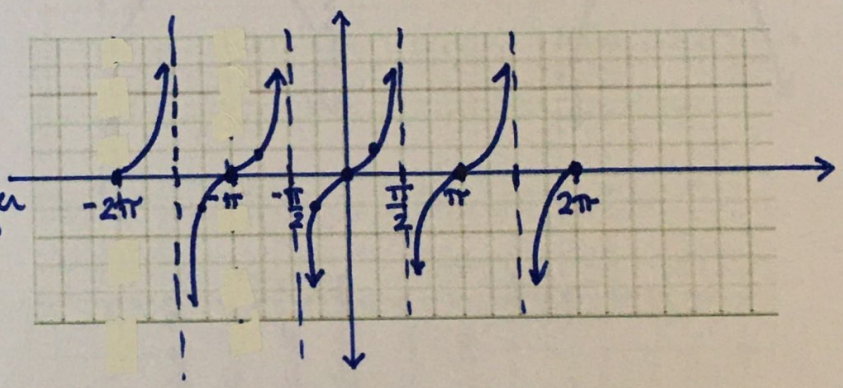
8) $y = \sec x = \frac{1}{\cos x}$

A: none
P: 2π
D: $x \neq \pi/2 k$; k is odd
R: $(-\infty, -1] \cup [1, \infty)$



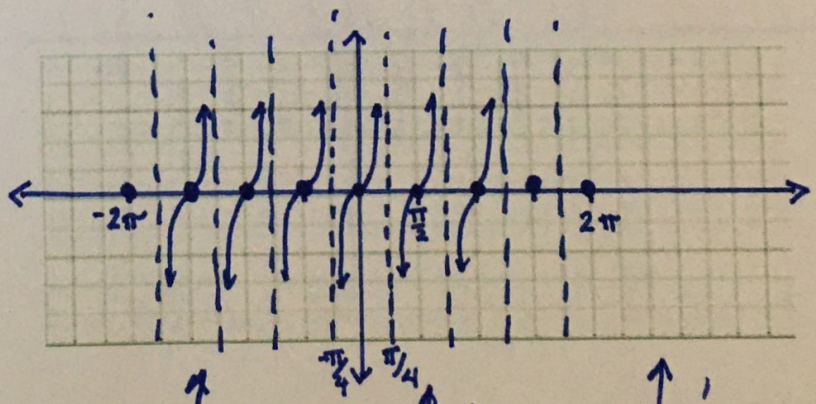
9) $y = \tan(x - \pi)$

A: none
P: π
D: $x \neq \pi/2 \pm \pi k$, k is any integer
R: $(-\infty, \infty)$
Phase shift right π



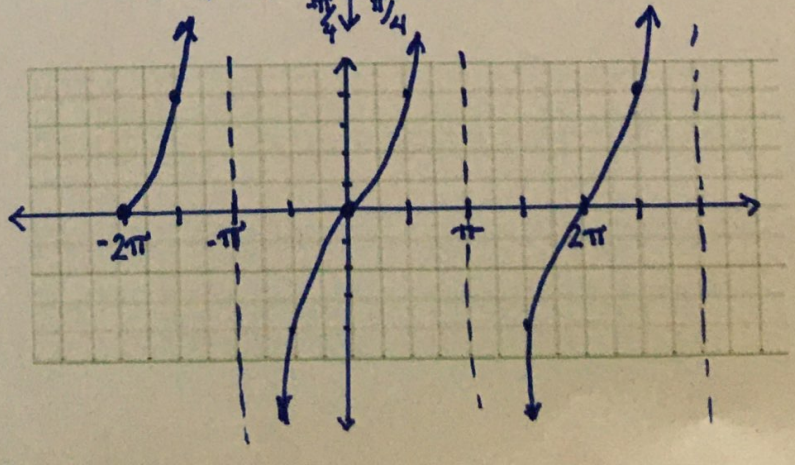
10) $y = 3\tan(2x)$

A: none
P: $\pi/2$
D: $x \neq \pi/4 \pm \pi/2 k$
R: $(-\infty, \infty)$



11) $y = 4\tan\left(\frac{1}{2}x\right)$

A: none
P: 2π
D:
R: $(-\infty, \infty)$



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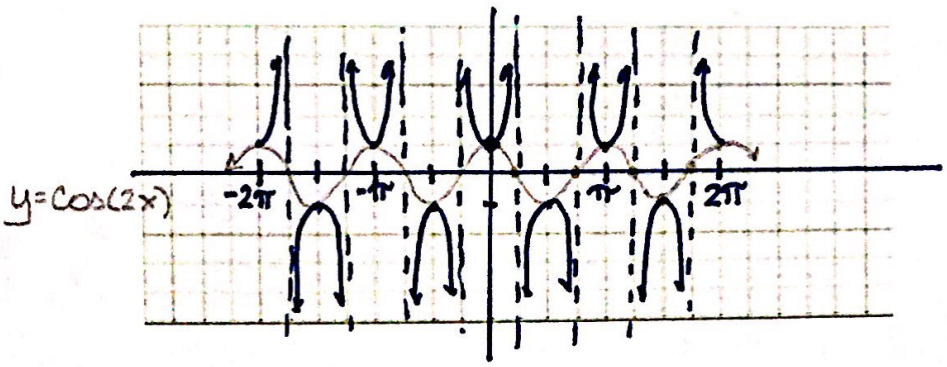
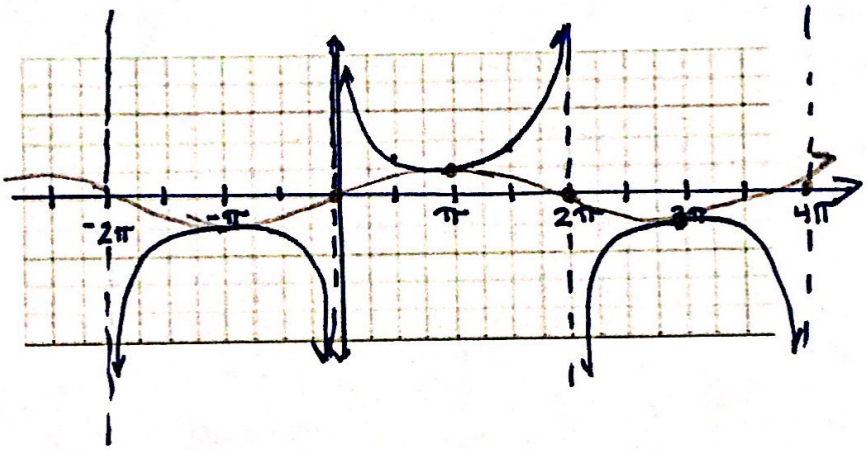
12) $y = \sec(2x) = \frac{1}{\cos(2x)}$

A: 1
P: π
D: $x \neq \pi/4 \pm \pi/2\,k$
R: $(-\infty,-1] \cup [1,\infty)$



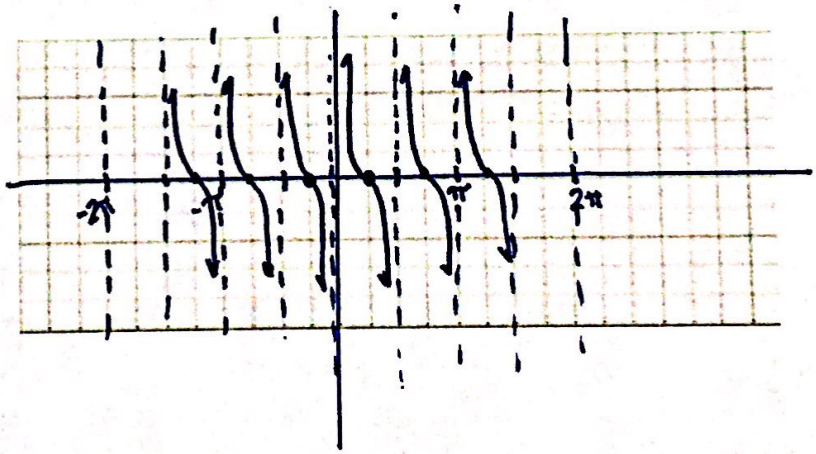
13) $y = \csc\left(\frac{1}{2}x\right) = \frac{1}{\sin(\frac{1}{2}x)}$

A: 1
P: 4π
D: $x \neq 0 \pm 2\pi k$
R: $(-\infty,-1] \cup [1,\infty)$



14) $y = \cot(2x)$

A: none
P: $\pi/2$
D: $x \neq 0 \pm \pi/2\,k$
R: $(-\infty,\infty)$



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