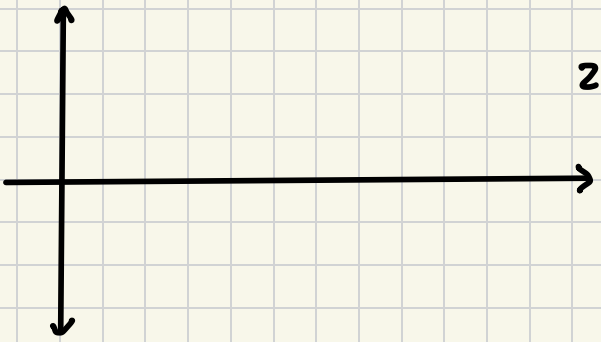
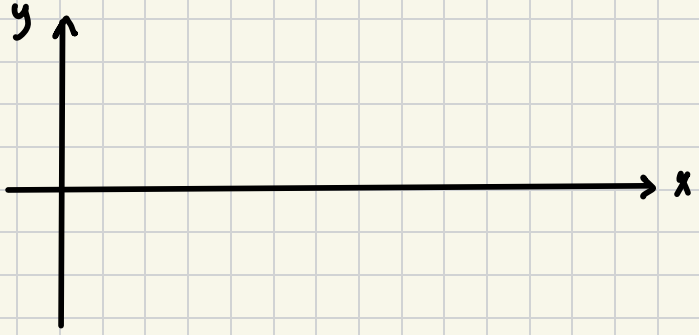
Ch. 24 - Board Problems

1) Graph Parent Functions:
$y = \sin x$

2) $y = -2\sin\left(x - \frac{\pi}{4}\right) + 2$



2) Graph: a) $y = \cos x$
b) $y = \cos\left(\frac{\pi}{4}x\right) - 1$



3) $f(x) = 2x^2 - 3$ $\quad g(x) = x + 1$

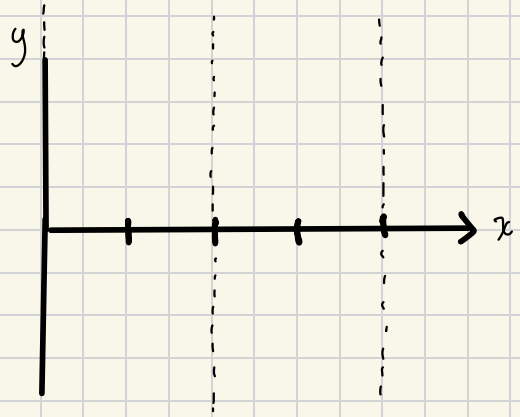
a) $f(g(2)) =$

b) $g(f(1)) =$

c) $f(h-1) =$

Ch. 24 - Graphing Secant & Cosecant

$y = \csc\theta$



$\sin\theta = \_\_\_$ $\csc\theta = \_\_\_$

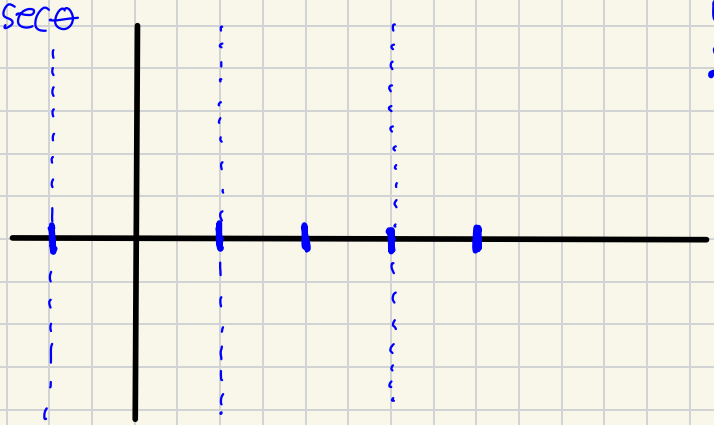
WHENEVER $\sin\theta = 0$,
$\csc\theta =$ _____

PERIOD = 2π

DOMAIN

RANGE

$y = \sec\theta$



$y = \sec\theta$
$P =$

Domain

RANGE

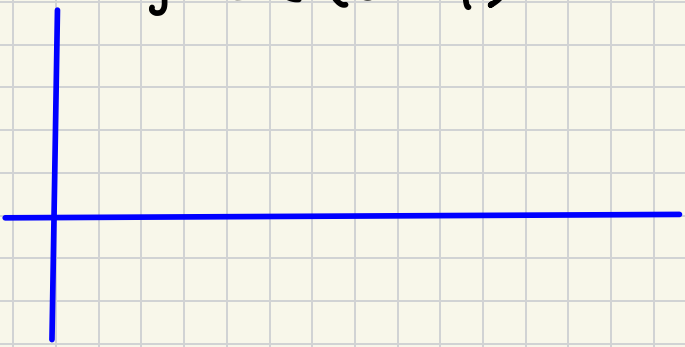
Ch. 24 Examples

$\csc\theta = \frac{1}{\sin\theta}$

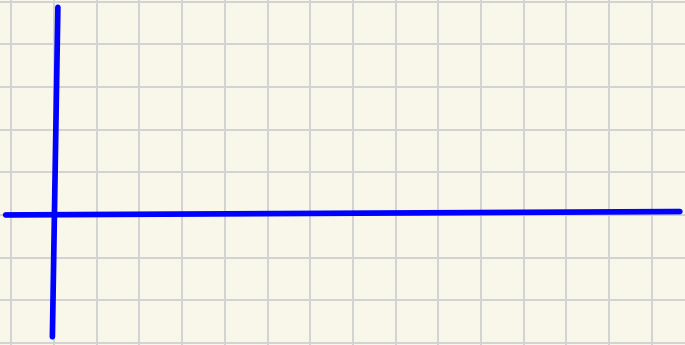
$\sec\theta = \frac{1}{\cos\theta}$

$y = \sec\left(\theta - \frac{\pi}{4}\right)$

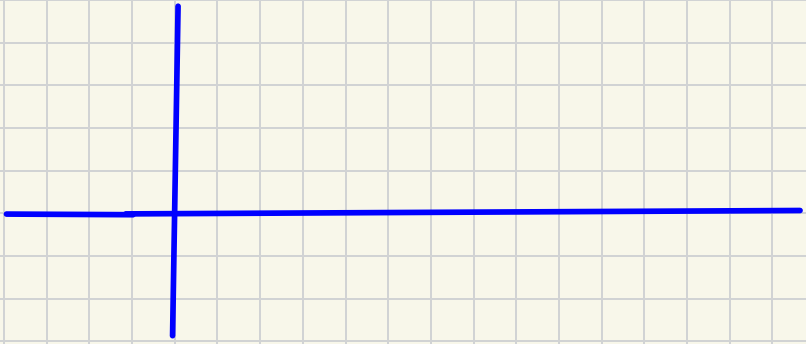
1.



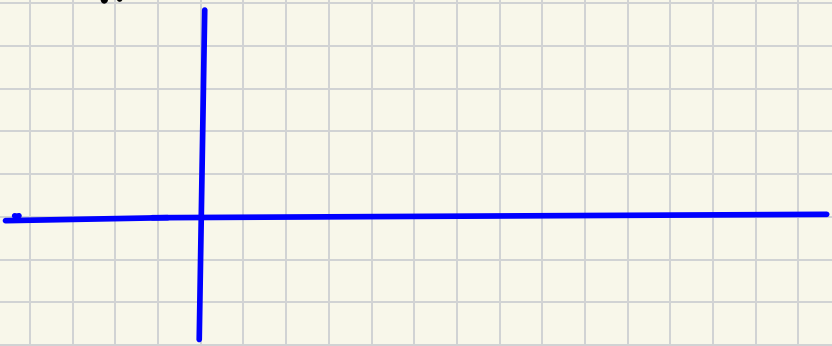
2. $\csc 2\theta + 1$



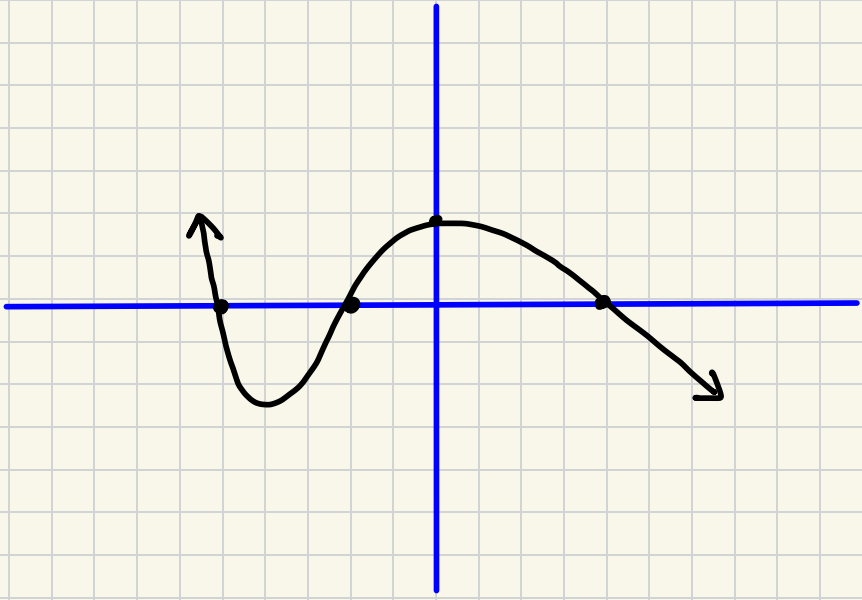
3. $\csc\left(\theta + \frac{\pi}{2}\right)$



4. $\sec \frac{1}{2}\left(\theta + \frac{\pi}{4}\right)$



ZEROES OF POLYNOMIALS (A Brief introduction)



 Name_____

Factors and Zeros

Date_____ Period____

Find all zeros.

1) $f(x) = (2x - 1)(x - 5)$

2) $f(x) = (x - 3)(3x + 1)(x + 1)$

3) $f(x) = (2x + 1)(x + 1)(x - 1)$

4) $f(x) = x(5x - 2)(x^2 + 1)$

5) $f(x) = x(x + 2)(x - 2)(3x^2 - 4)$

6) $f(x) = (2x - 1)(x^2 + 3)(2x^2 - 5)$

7) $f(x) = x(2x - 1)(x - 1)(x + 1)$

8) $f(x) = (2x + 5)(x^2 - 2x - 5)$

Write a polynomial function of least degree with integral coefficients that has the given zeros.

9) 3, 2, –2

10) 3, 1, –2, –4

11) $5,\ -1,\ 0$

12) $-3,\ -\frac{1}{3},\ 5$

13) $\frac{5}{3},\ 1,\ -1$

14) $2,\ \frac{5}{3},\ -5$

Find all zeros by factoring each function.

15) $f(x) = x^3 - 2x^2 + x$

16) $f(x) = x^3 + 8$

17) $f(x) = x^4 - x^2 - 30$

18) $f(x) = x^4 + x^2 - 12$

19) $f(x) = x^6 - 64$

20) $f(x) = x^6 + 2x^3 + 1$