Practice Test 2 on Chapter 3
Math 1392 - Trigonometry - Fall 2015

Instructions: Calculators are not allowed on this test. Each problem is worth 10 points.

1. Sketch the graph of $y = -2\sin(x) + 1$. Please identify the period, amplitude, phase shift and vertical translation for this curve.

2. Sketch the graph of $y = 3\cos(\pi(x+1)) + 1$. Please identify the period, amplitude, phase shift and vertical translation for this curve.

3. Sketch the graph of $y = -5\sin(3x + \pi/2)$. Please identify the period, amplitude, phase shift and vertical translation for this curve.

4. Determine the vertical and horizontal asymptotes and x and y-intercepts and sketch the graph of

$$y = \frac{x^2 - 2x - 8}{x^2 + 3x - 4}$$

5. Identify the vertical asymptotes and sketch the graph of

$$y = 2\sec(3x - \pi)$$

6. Identify the vertical asymptotes and sketch the graph of

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

7. Identify the vertical asymptotes and sketch the graph of

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

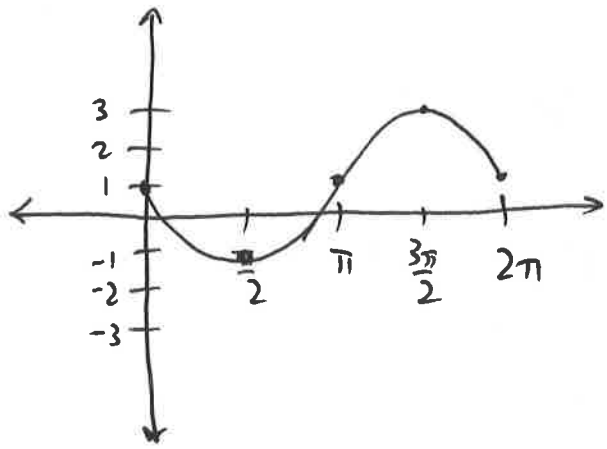
8. Identify the vertical asymptotes and sketch the graph of

$$y = -3\cot(2\pi x + \pi/2)$$

1. $y = -2\sin x + 1$

$P = 2\pi \quad A = 2$

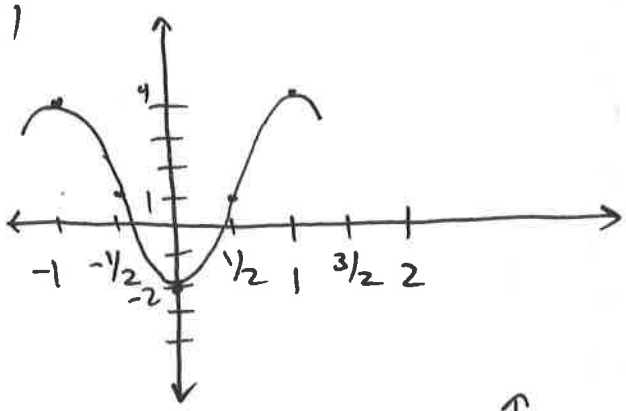
$C = 0 \quad D = 1$



2. $y = 3\cos(\pi(x+1)) + 1$

$P = 2 \quad A = 3$

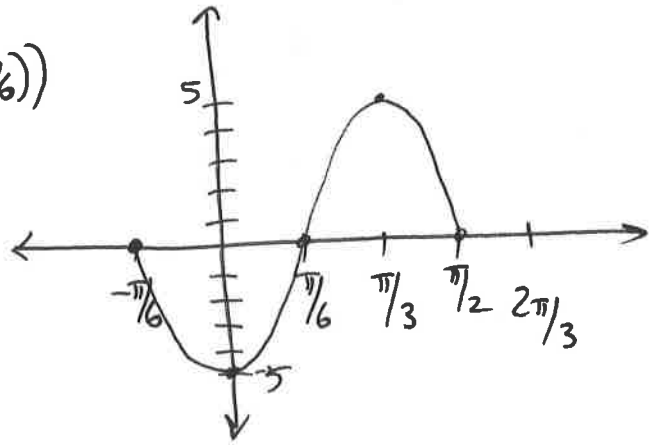
$C = -1 \quad D = 1$



3. $y = -5\sin(3x + \pi/2) = -5\sin(3(x - -\pi/6))$

$P = \frac{2\pi}{3} \quad A = 5$

$C = -\pi/6 \quad D = 0$



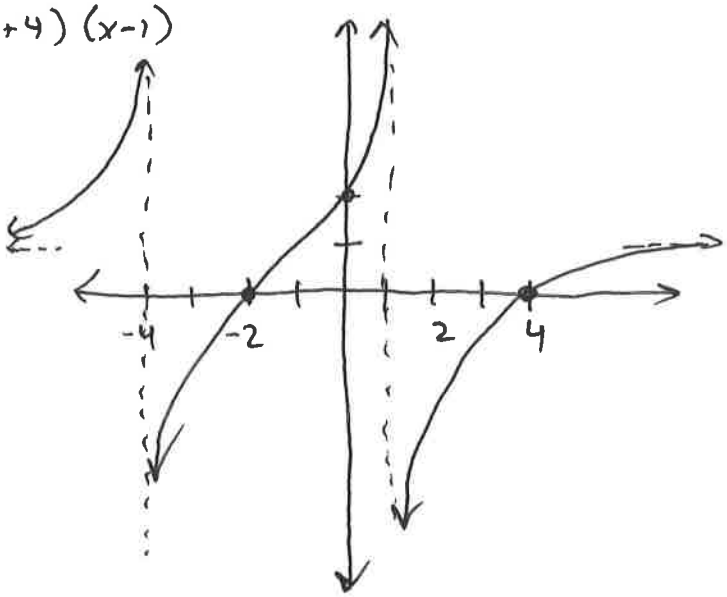
4. $y = \frac{x^2 - 2x - 8}{x^2 + 3x - 4} = \frac{(x-4)(x+2)}{(x+4)(x-1)}$

VA $x = -4, 1$

x-int $x = 4, -2$

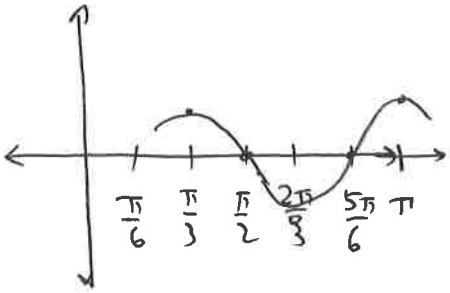
y-int $y = \frac{-8}{-4} = 2$

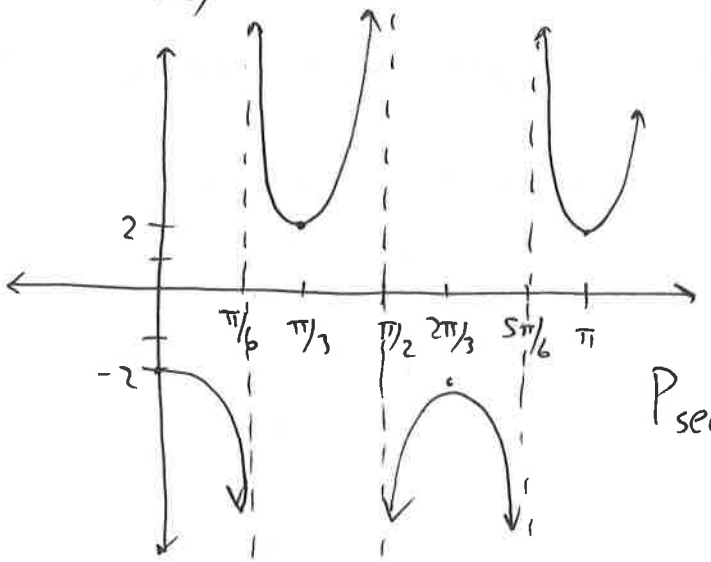
HA $y = 1$



5. $y = 2\sec(3x-\pi) = 2\left(\dfrac{1}{\cos(3(x-\pi/3))}\right)$

$\cos(3(x-\pi/3))$ $\quad P = \dfrac{2\pi}{3}$





$P_{sec} = \dfrac{2\pi}{3}$

VA: $x = \dfrac{\pi}{6}, \dfrac{\pi}{2}, \dfrac{5\pi}{6}, \ldots$

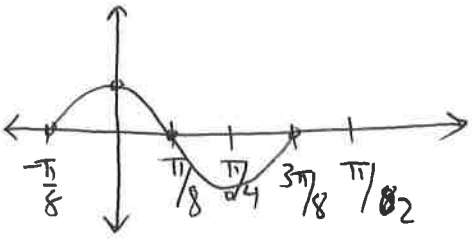
odd multiples of $\pi/6$

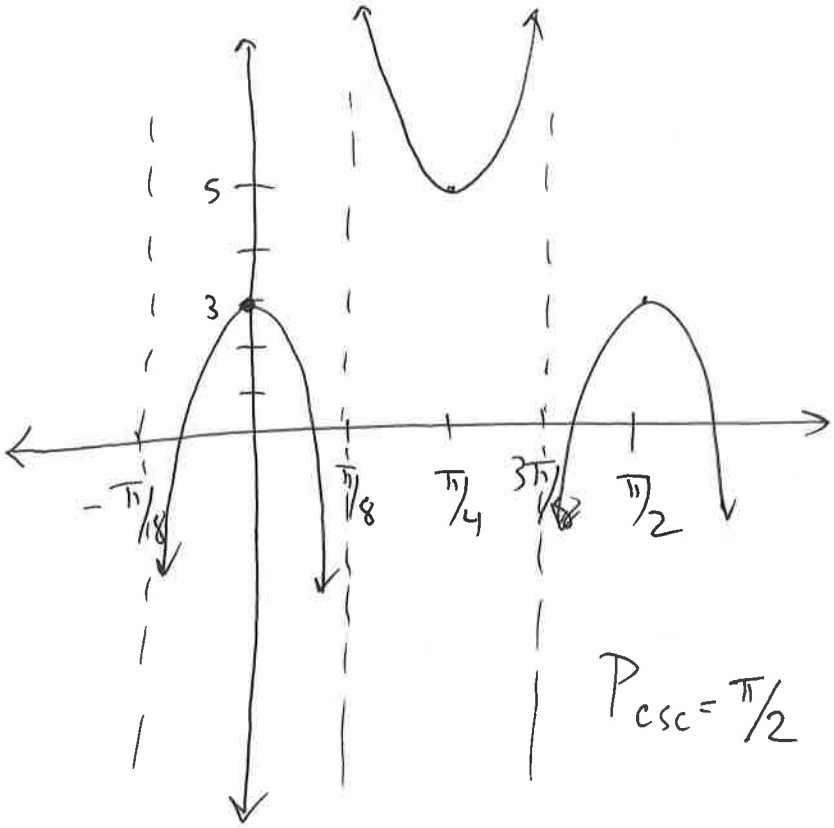
$(2k+1)\pi/6$

6. $y = -\csc(4x + \pi/2) + 4$

$= -\left(\dfrac{1}{\sin(4(x - -\pi/8))}\right) + 4$

$P_{sin} = \pi/2$





$P_{csc} = \pi/2$

VA: $x = \dfrac{\pi}{8}, \dfrac{3\pi}{8}, \ldots$

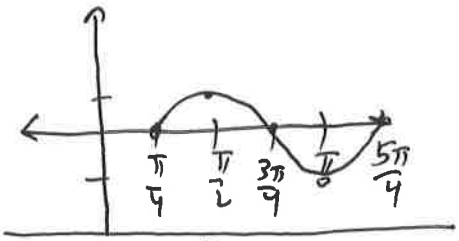
odd multiples of $\pi/8$

$(2k+1)\pi/8$

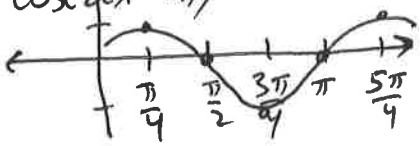
7. $y = \tan(2(x-\pi/4))+2$

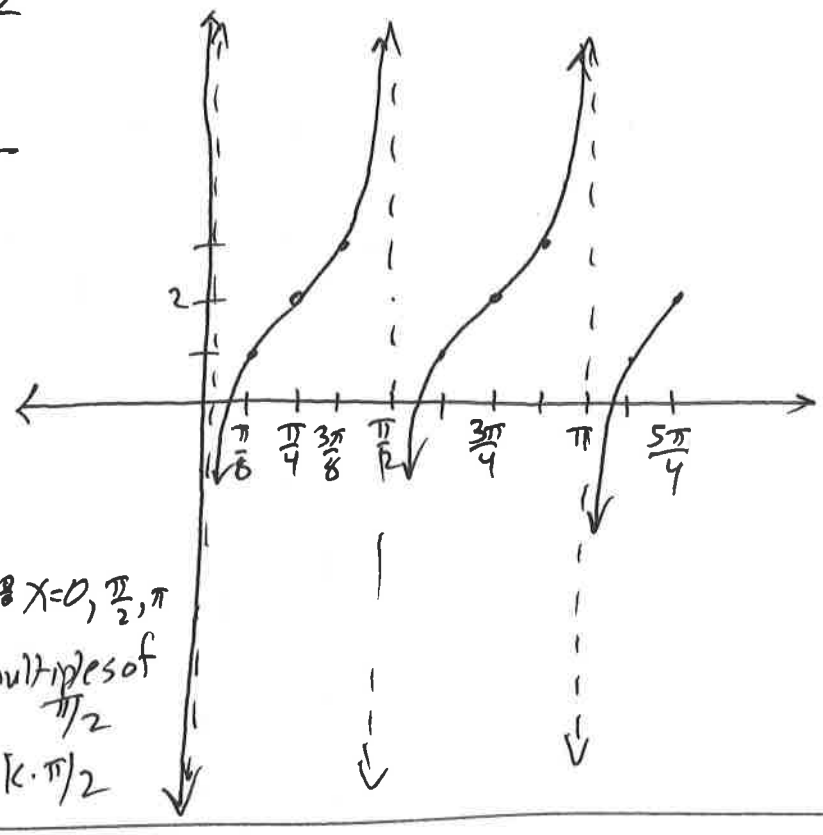
$= \dfrac{\sin(2(x-\pi/4))}{\cos(2(x-\pi/4))} + 2$

$\sin(2(x-\pi/4))$ $\quad P_{\sin} = \pi$



$\cos(2(x-\pi/4))$





VA: $x = 0, \frac{\pi}{2}, \pi$

multiples of $\pi/2$

$k \cdot \pi/2$

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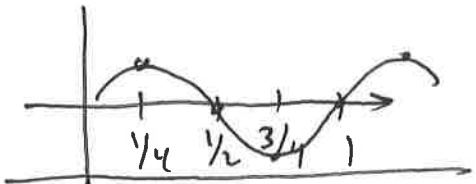
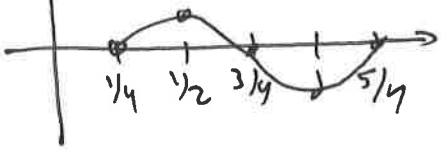
8. $y = -3\cot(2\pi x + \pi/2)$

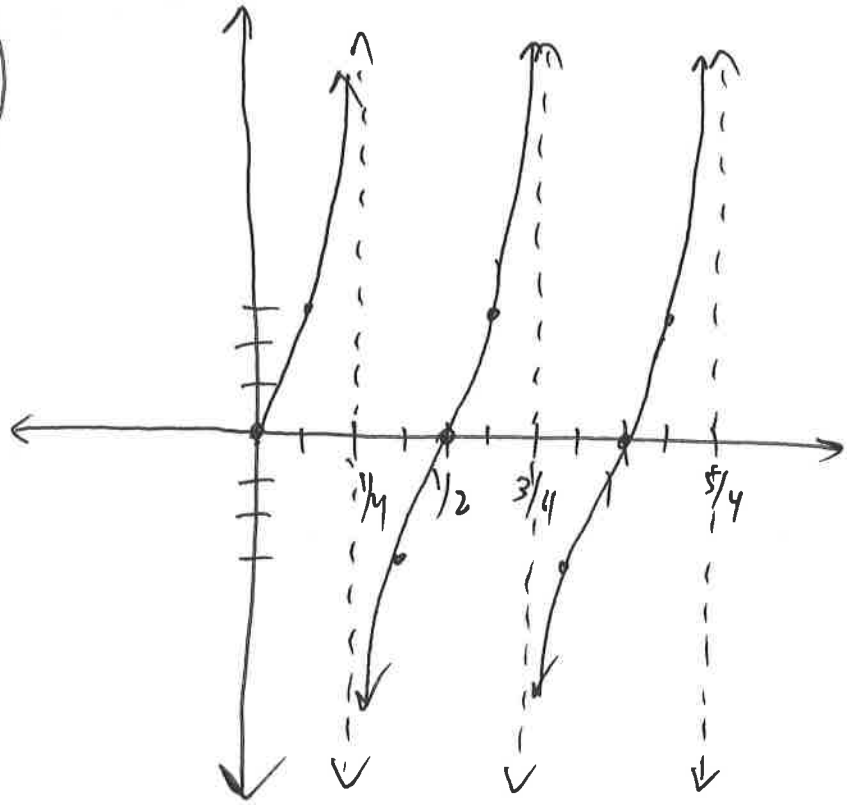
$= -3\left(\dfrac{\cos(2\pi(x--1/4))}{\sin(2\pi(x--1/4))}\right)$

$\cos(2\pi(x--1/4))$ $\quad P_{\cos} = 1$



$\sin(2\pi(x--1/4))$





VA: $x = 1/4, 3/4, 5/4$

odd multiples of $1/4$

$(2k+1)\,1/4$