

4.3 Packet 4 (ABCD - all 6.)

Name: Answer key
 Period: _____

Date: _____
 Trigonometry

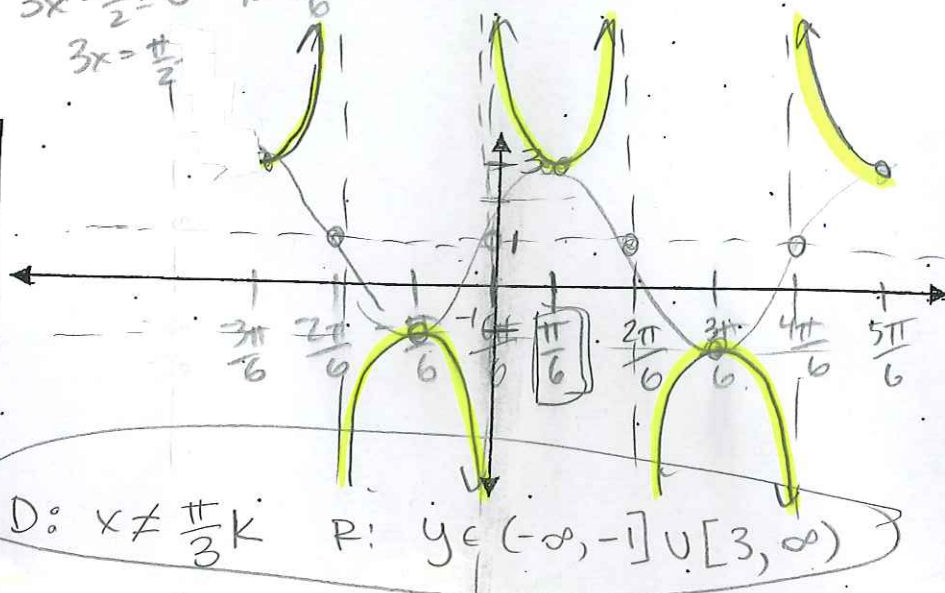
Graphing HW: ~~Graphing HW~~

Graph two full periods.

1. $y = 2 \sec\left(3x - \frac{\pi}{2}\right) + 1$

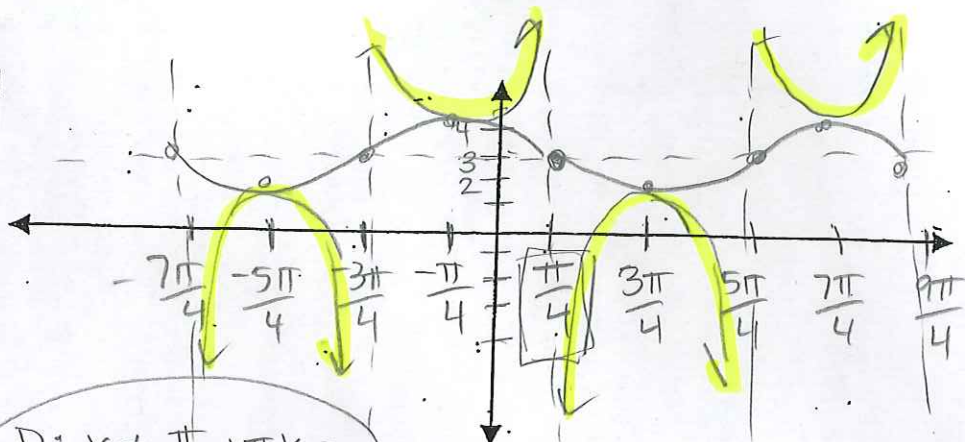
$3x - \frac{\pi}{2} = 0 \quad x = \frac{\pi}{6}$
 $3x = \frac{\pi}{2}$

Amplitude = 2 (none)
 B = 3
 P = $\frac{2\pi}{3}$
 Increment = $\frac{2\pi}{3} \cdot \frac{\pi}{6}$
 S.A. = $y =$ 1
 S.P. = $\frac{\pi}{6}$
 E.P. = _____



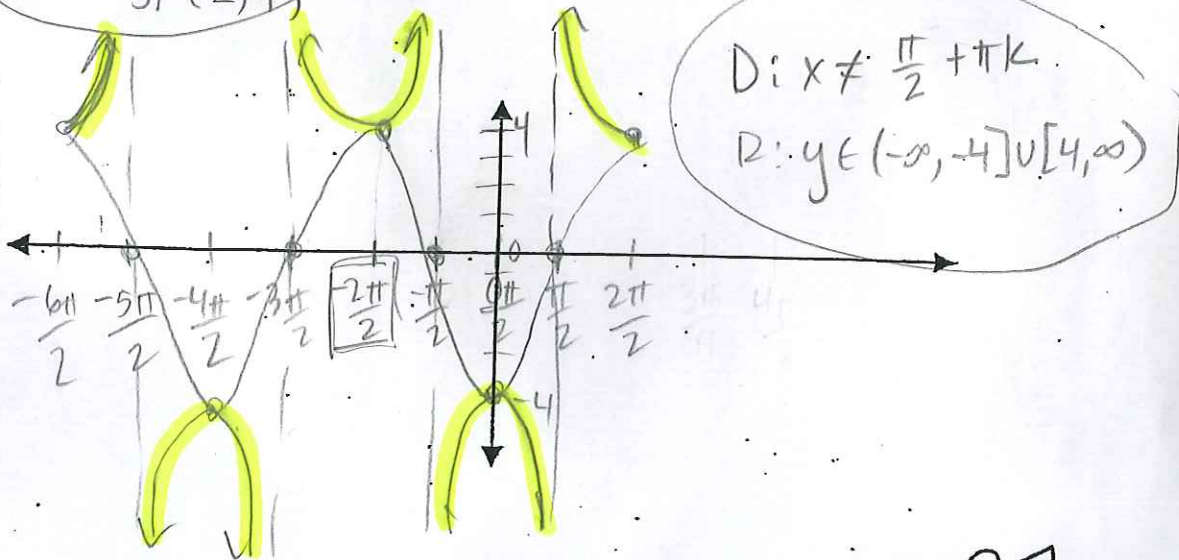
2. $y = -\csc\left(x - \frac{\pi}{4}\right) + 3$

Amplitude = 1 (none)
 B = 1
 P = 2π
 Increment = $\frac{\pi}{2} \cdot \frac{2\pi}{4}$
 S.A. = $y =$ 3
 S.P. = $\frac{\pi}{4}$
 E.P. = _____



3. $y = 4 \sec(x + \pi)$

Amplitude = 4 (none)
 B = 1
 P = 2π
 Increment = $\frac{8\pi}{4} = \frac{\pi}{2}$
 S.A. = $y =$ 0
 S.P. = $-\pi = \frac{2\pi}{2}$
 E.P. = _____

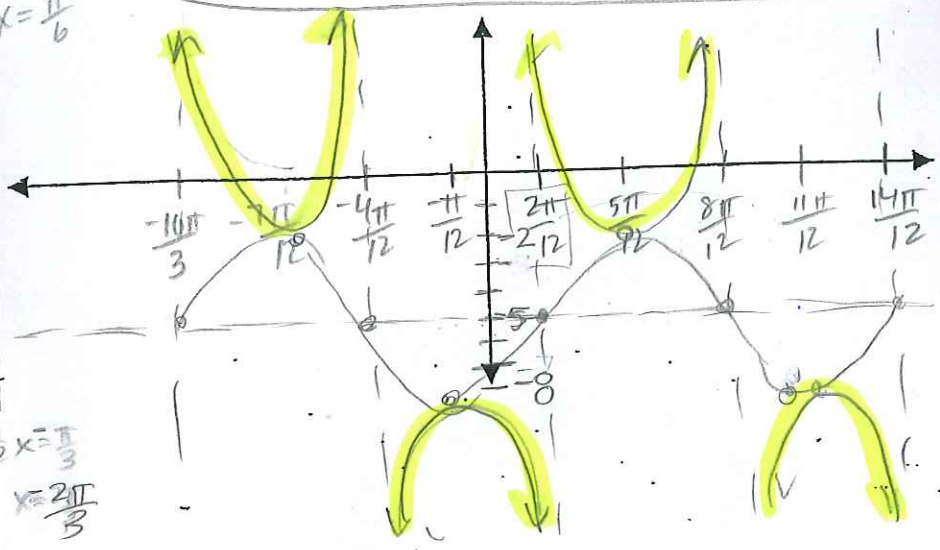


4. $y = 3 \csc\left(2x - \frac{\pi}{3}\right) - 5$

$2x - \frac{\pi}{3} = 0 \Rightarrow 2x = \frac{\pi}{3} \Rightarrow x = \frac{\pi}{6}$

$D: x \neq \frac{\pi}{6} + \frac{\pi}{2}k \quad R: y \in (-\infty, -8] \cup [-2, \infty)$

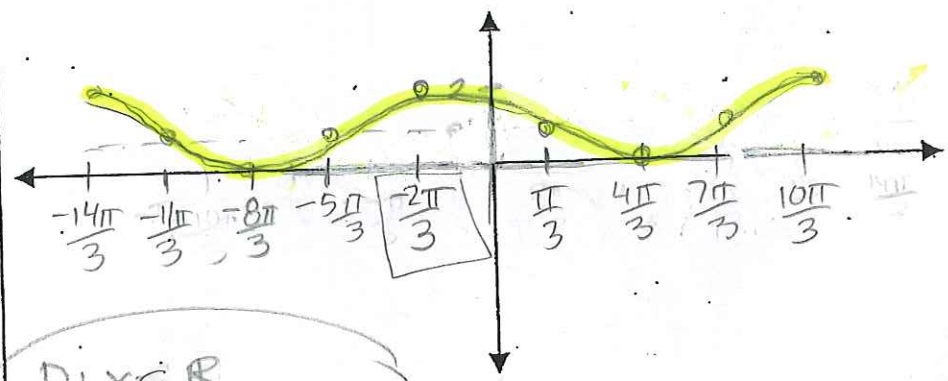
Amplitude = 3 (none)
 B = 2
 P = $\frac{2\pi}{2} = \pi$
 Increment = $\frac{\pi}{4} = \frac{3\pi}{12}$
 S.A. = $y = -5$
 S.P. = $\frac{\pi}{6} = \frac{2\pi}{12}$
 E.P. =



5. $y = \cos\left(\frac{1}{2}x + \frac{\pi}{3}\right) + 1$

$\frac{1}{2}x + \frac{\pi}{3} = 0 \Rightarrow \frac{1}{2}x = -\frac{\pi}{3} \Rightarrow x = -\frac{2\pi}{3}$

Amplitude = 1
 B = $\frac{1}{2}$
 P = 4π
 Increment = $\pi = \frac{3\pi}{3}$
 S.A. = $y = 1$
 S.P. = $-\frac{2\pi}{3}$
 E.P. =

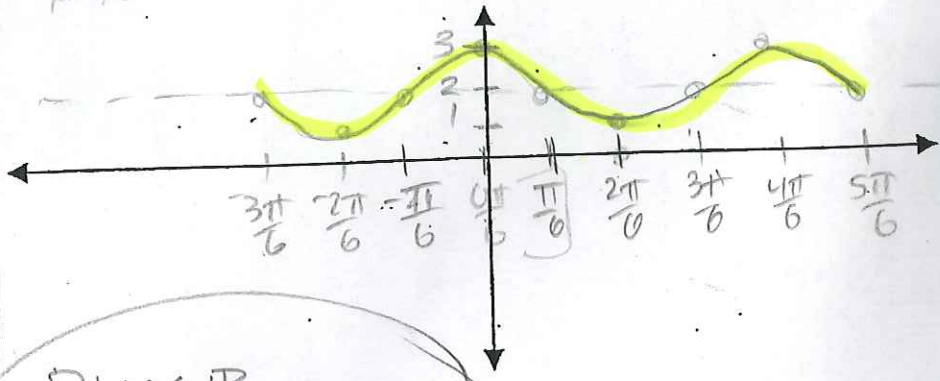


$D: x \in \mathbb{R}$
 $R: y \in [0, 2]$

6. $y = -\sin\left(3x - \frac{\pi}{2}\right) + 2$

$3x - \frac{\pi}{2} = 0 \Rightarrow 3x = \frac{\pi}{2} \Rightarrow x = \frac{\pi}{6}$

Amplitude = 1
 B = 3
 P = $\frac{2\pi}{3}$
 Increment = $\frac{\pi}{4}$
 S.A. = $y =$
 S.P. = $\frac{\pi}{6}$
 E.P. =



$D: x \in \mathbb{R}$
 $R: y \in [1, 3]$

Name: _____
 Period: _____

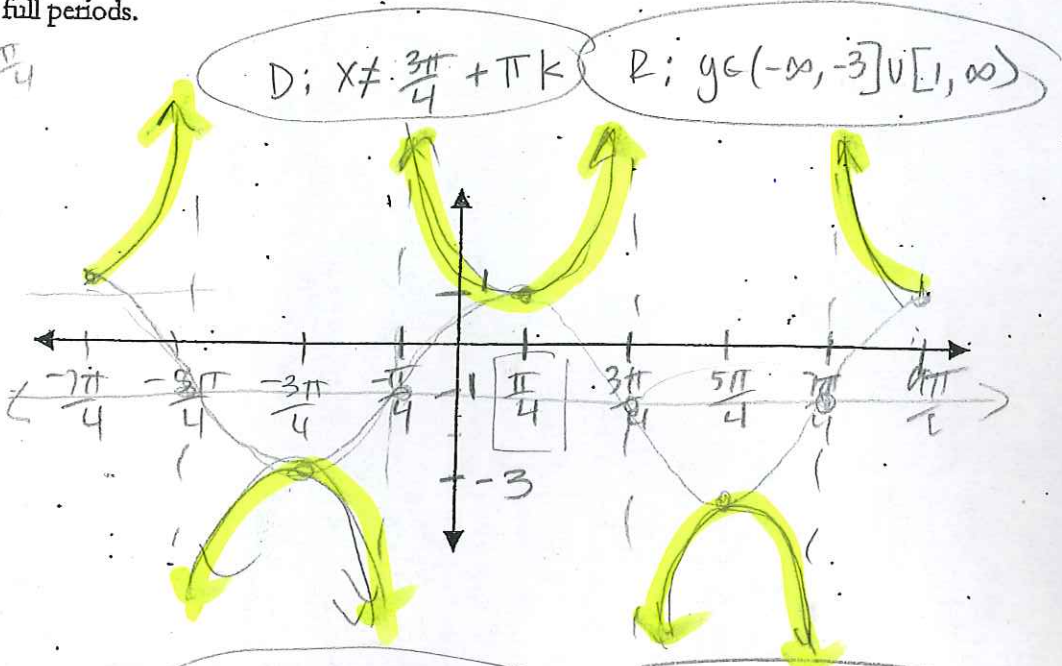
Date: _____
 Trigonometry

Graphing HW #5

Graph over the interval of two full periods.

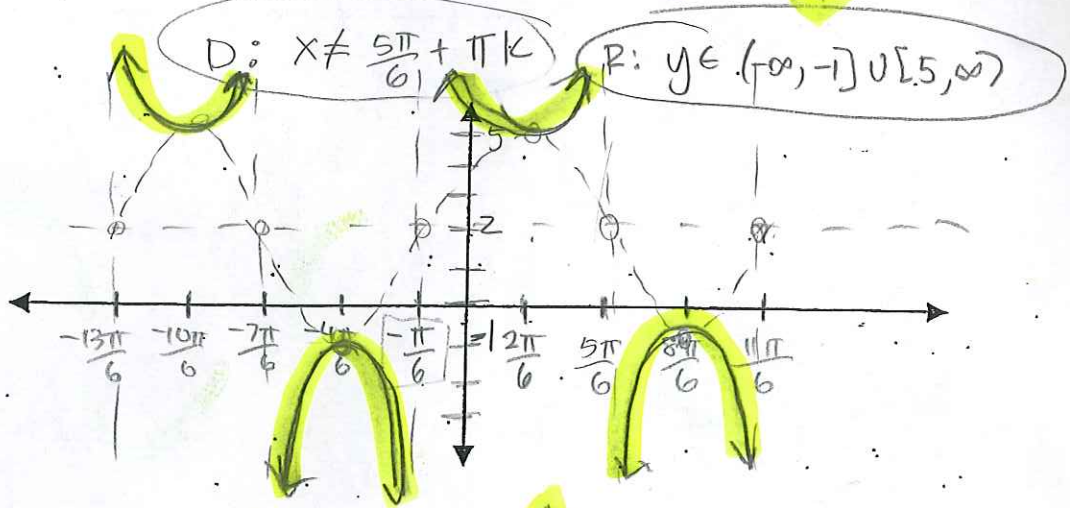
1. $y = 2\sec\left(x - \frac{\pi}{4}\right) - 1$ $x = \frac{\pi}{4}$

Amplitude = 2 (none)
B = 1
P = 2π
Increment = $\frac{\pi}{2} = \frac{2\pi}{4}$
S.A. = $y = -1$
SP: $x = \frac{\pi}{4}$



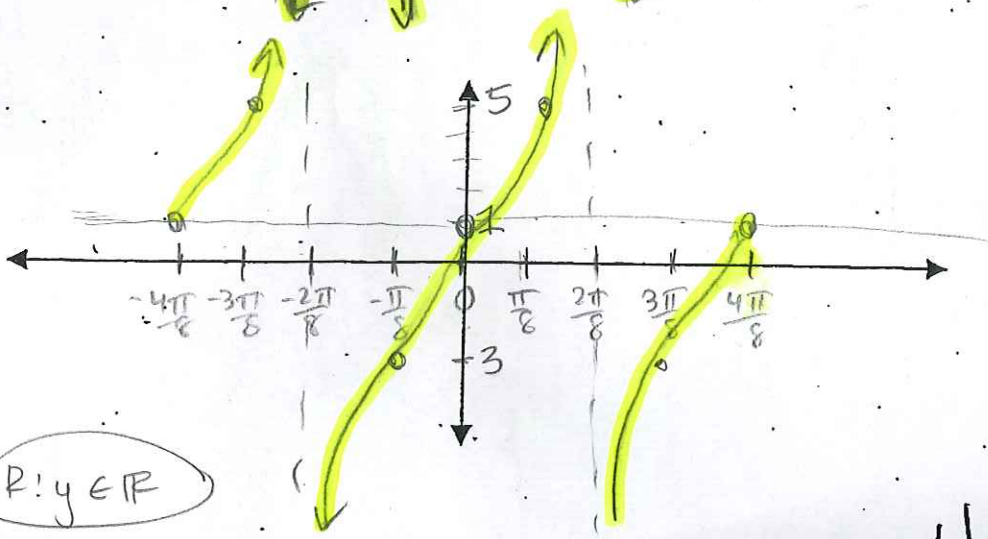
2. $y = 3\csc\left(x + \frac{\pi}{6}\right) + 2$

Amplitude = 3 (none)
B = 1
P = 2π
Increment = $\frac{\pi}{2} = \frac{3\pi}{6}$
S.A. = $y = 2$
SP: $x = -\frac{\pi}{6}$



3. $y = 4\tan 2x + 1$

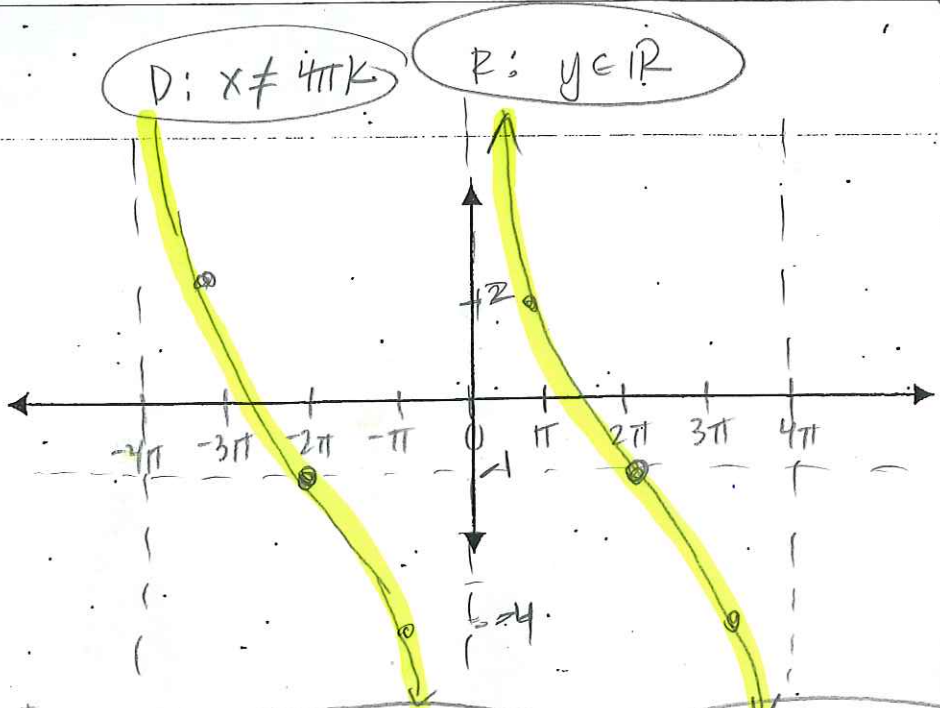
Amplitude = 4 (none)
B = 2
P = $\frac{\pi}{2}$
Increment = $\frac{\pi}{8}$
Asymptotes = $x = -\frac{\pi}{4}$ $x = \frac{\pi}{4}$



D: $x \neq \frac{\pi}{4} + \frac{\pi}{2}k$ R: $y \in \mathbb{R}$

4. $y = 3 \cot \frac{1}{4}x - 1$

Amplitude = 3
 B = 1/4
 P = $\frac{\pi}{1/4} = 4\pi$
 Increment = π
 Asymptotes = $x = \underline{0}$
 $x = \underline{4\pi}$



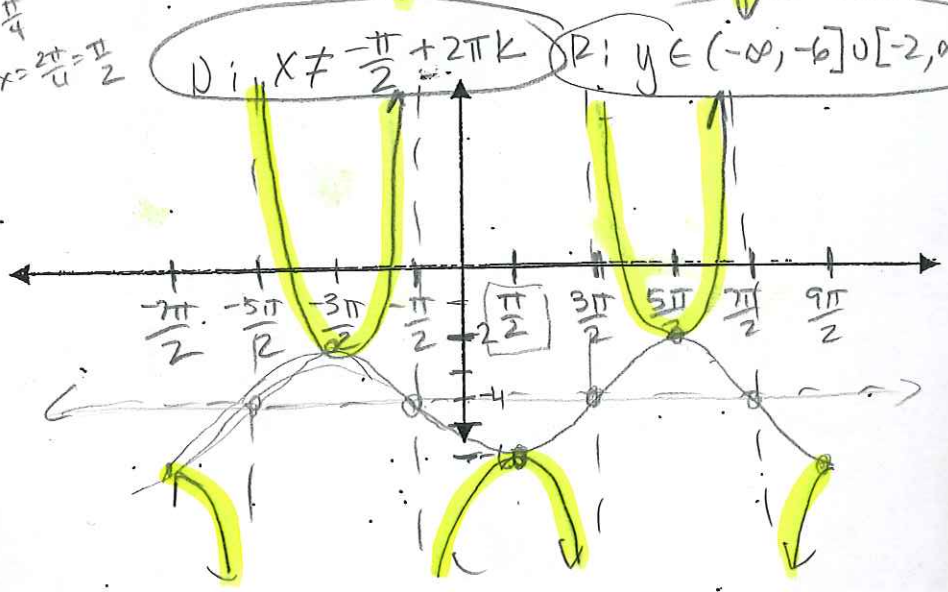
D: $x \neq 4\pi k$

R: $y \in \mathbb{R}$

5. $y = -2 \sec \left(\frac{1}{2}x - \frac{\pi}{4} \right) - 4$

$\frac{1}{2}x - \frac{\pi}{4}$
 $\frac{1}{2}x = \frac{\pi}{4}$
 $x = \frac{2\pi}{4} = \frac{\pi}{2}$

Amplitude = 2
 B = 1/2
 P = 4π
 Increment = $\pi = \frac{2\pi}{2}$
 S.A. = $y = \underline{-4}$
 SP: $x = \underline{\frac{\pi}{2}}$

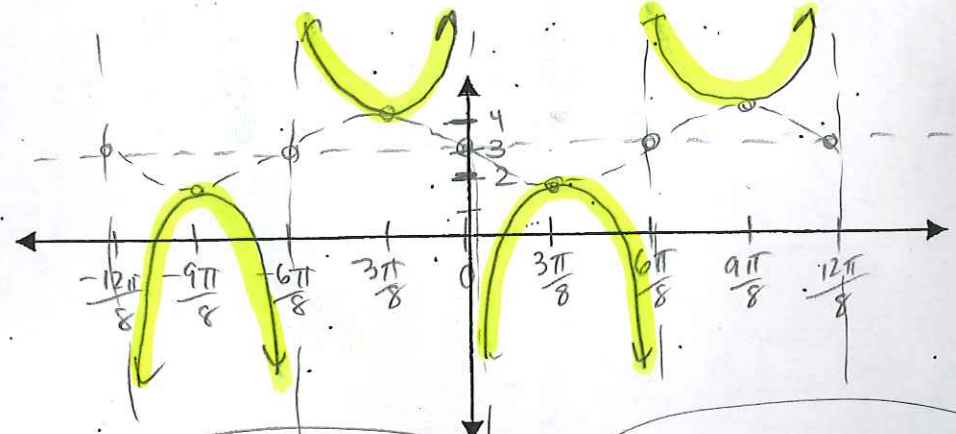


D: $x \neq \frac{\pi}{2} + 2\pi k$

R: $y \in (-\infty, -6] \cup [-2, \infty)$

6. $y = -\csc \frac{1}{3}x + 3$

Amplitude = 1/3
 B = $\frac{\pi}{1/3} = 3\pi$
 P = $\frac{6\pi}{2} = 3\pi$
 Increment = $\frac{3\pi}{2}$
 S.A. = $y = \underline{3}$



D: $x \neq \frac{3\pi}{4} k$

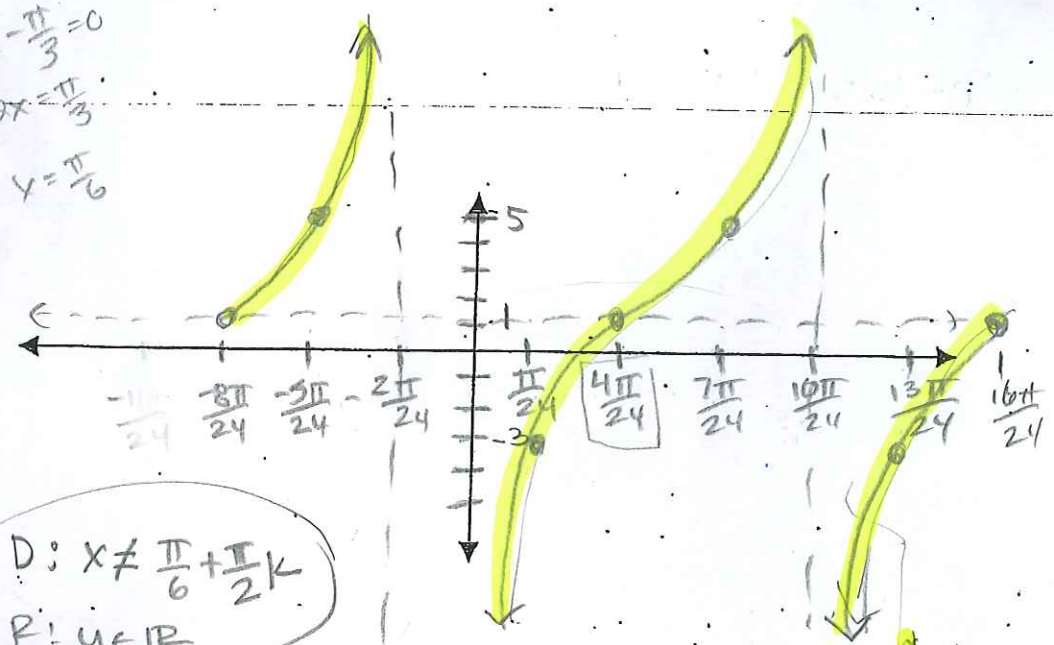
R: $y \in (-\infty, -2] \cup [4, \infty)$

7. $y = 4 \tan\left(2x - \frac{\pi}{3}\right) + 1$

$2x - \frac{\pi}{3} = 0$
 $2x = \frac{\pi}{3}$
 $x = \frac{\pi}{6}$

Amplitude = 4 (none)
B = 2
P = $\frac{\pi}{2}$
Increment = $\frac{\pi}{8}$ (circled $\frac{3\pi}{24}$)
Asymptotes = $x = -\frac{\pi}{12}$
 $x = \frac{\pi}{6}$

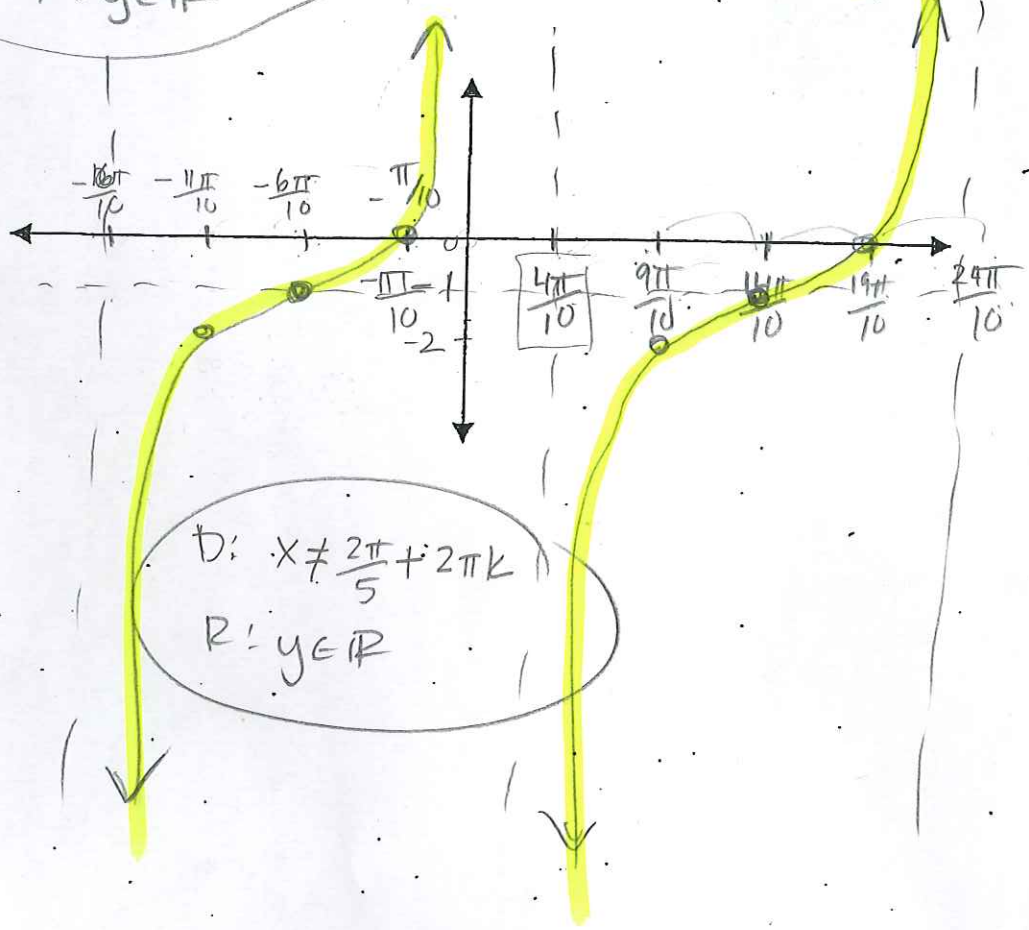
SP: $\frac{\pi}{6}$ (circled $\frac{4\pi}{24}$)



D: $x \neq \frac{\pi}{6} + \frac{\pi}{2}k$
R: $y \in \mathbb{R}$

8. $y = -\cot\left(\frac{1}{2}x - \frac{\pi}{5}\right) - 1$

Amplitude = 1 (none)
B = 1/2
P = $\frac{\pi}{2}$
Increment = $\frac{\pi}{2}$ (circled $\frac{5\pi}{10}$)
Asymptotes = $x =$ _____
 $x =$ _____



D: $x \neq \frac{2\pi}{5} + 2\pi k$
R: $y \in \mathbb{R}$

$\frac{1}{2}x - \frac{\pi}{5} = 0$

$\frac{1}{2}x = \frac{\pi}{5}$

SP: $x = \frac{2\pi}{5}$

$x = \frac{4\pi}{10}$ (circled)