Label the axes with appropriate values. Asymptotes should be dashed lines.

−1 if left out all lines for asymptotes

13 pts

1. For each of the following functions, **graph at least two periods** (one period in the positive x direction and one period in the negative x direction.) Find the pertinent information (amplitude, period, divisions of period, etc.) **Plot at least 5 points in each period.** Label the axes with appropriate values

2 pt label axes
1 pt overall shape

a. $y = -\sin\left(\dfrac{1}{2}x\right)$

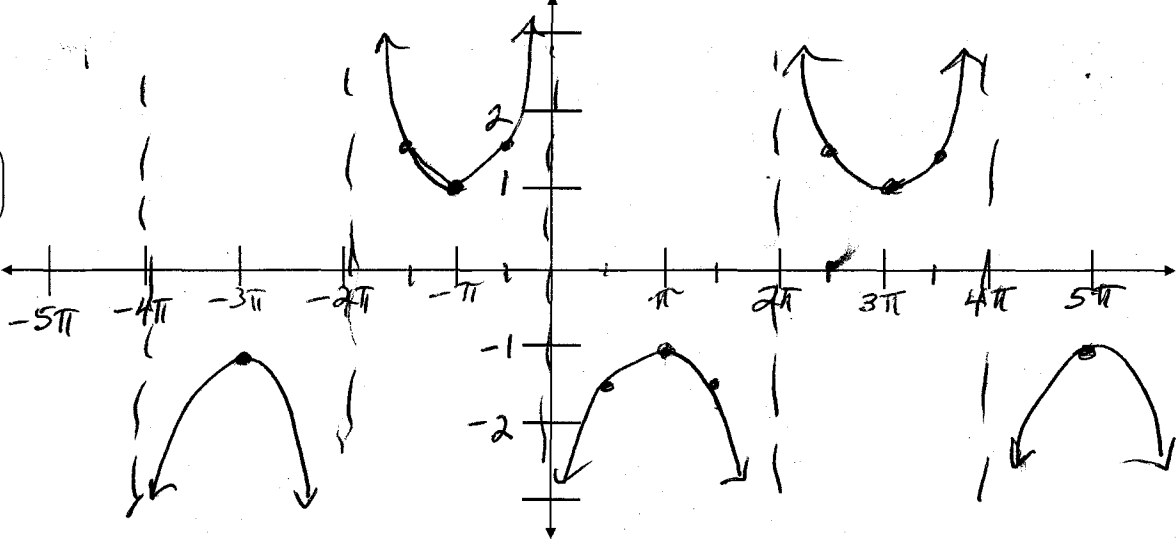1 pt period: $\dfrac{2\pi}{\frac{1}{2}} = 4\pi$

1 pt amplitude: 1
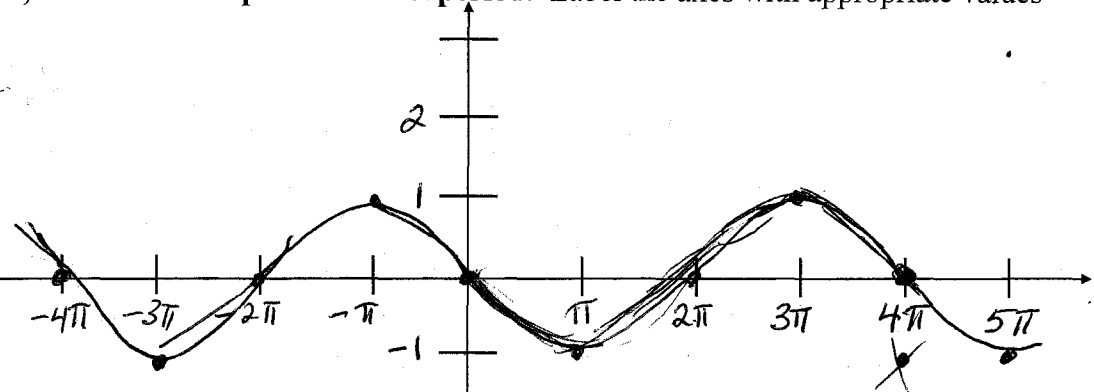
3 pts

x	y
0	0
π	−1
2π	0
3π	1
4π	0
π/2, 3π/2	−.7

1 pt asymptotes,
1 pt overall shape

b. $y = -\csc\left(\dfrac{1}{2}x\right)$

3 pts

x	y
0, 2π, 4π	undefined
π, 3π	−1
−π, 2π	+1
π/2, 3π/2	$-\sqrt{2} \approx -1.4$

7 pts

2. . Graph two periods of the following function. **Plot at least 3 points in each period and label them.**

2 pts asymptotes
2 pts overall shape $y = \cot x$

3 pts

x	y
± π/2	0
± π	undefined
± π/4	1
+ 3π/4	−1
− π/4	−1
− 3π/4	1