

Solutions

pg 1ne

① A

④ C Amp = $|5| = 5$

② D

⑤ A Standard Interval: $0 \leq \frac{2x}{2} < \frac{2\pi}{2}$

③ D

⑥ A

$$\Rightarrow 0 \leq x < \pi \Rightarrow \underline{\underline{[0, \pi)}}$$

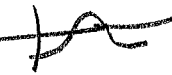
⑦ D Note: This item has a typo error.
The question SHOULD read
"TO WHAT DOES THE '+5' CORRESPOND?"
Thus D

⑧ B

II

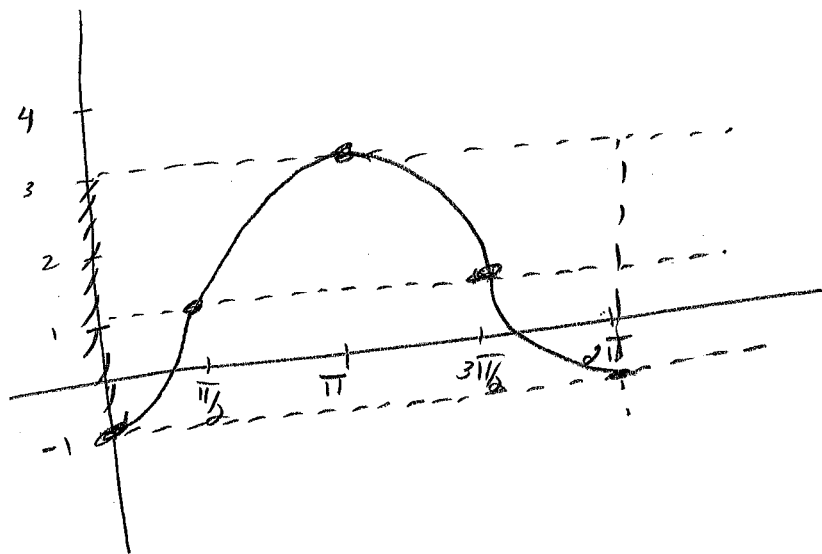
⑨ $f(x) = -2\cos(x) + 1$

(*) SHIFT: $\uparrow 1$

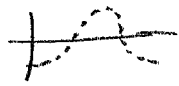
(*) BASIC SHAPE: 

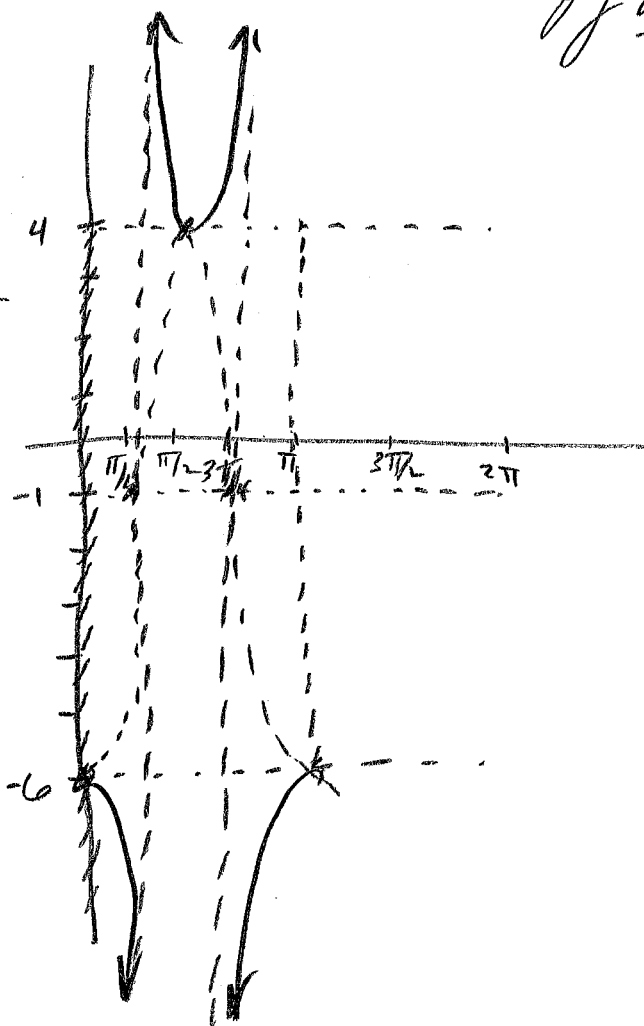
(*) AMP: $|-2| = 2 \Rightarrow$

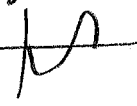
(*) STANDARD INTERVAL
 $0 \leq x < 2\pi$

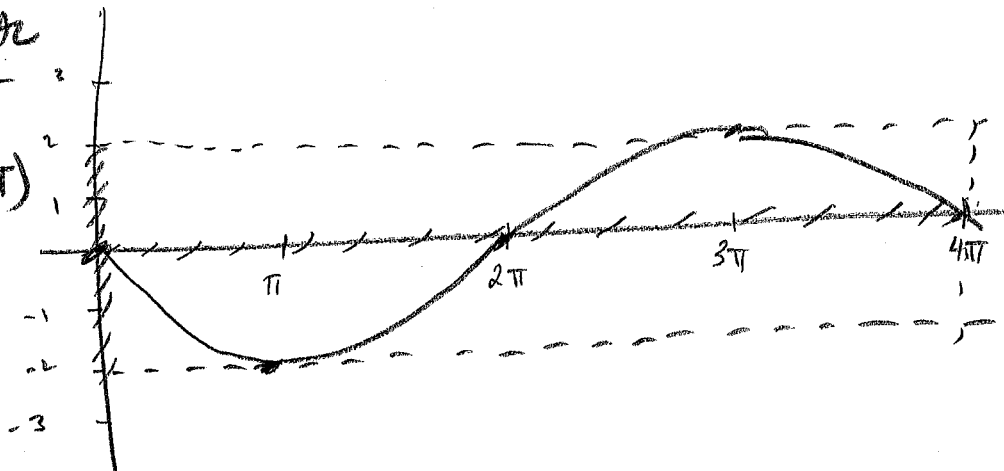


pg two

- ⑩ $f(x) = -5 \sec(2x) - 1$
 ↳ first sketch (dotted)
 $f(x) = -5 \cos(2x) - 1$
 * shift: $\downarrow 1$
 * Basic shape: 
 * Amp: $|-5| = 5$
 * standard Interval
 $\Rightarrow \frac{0}{2} \leq \frac{2x}{2} < \frac{2\pi}{2}$
 $\Rightarrow 0 \leq x < \pi$



- ⑪ $f(x) = -2 \sin(\frac{1}{2}x)$
 * SHIFT: NONE
 * Basic Shape: 
 * Amp: $|-2| = 2$
 * STANDARD INTERVAL
 $0 \leq \frac{1}{2}x < 2\pi$
 $\Rightarrow 2(0) \leq 2(\frac{1}{2}x) < 2(2\pi)$
 $\Rightarrow 0 \leq x < 4\pi$



12 $f(x) = \tan(2x)$

* Shift: None

* Basic Shape:

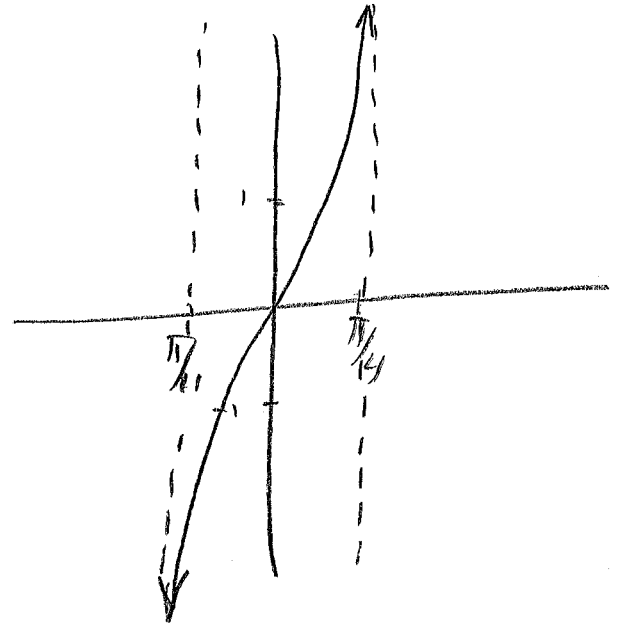
* Amp: $|1| = 1$

* Standard Interval

Note!
start tangent
with THESE
values

$$-\frac{\pi}{2} < 2x < \frac{\pi}{2}$$

$$-\left(\frac{1}{2}\right)\left(-\frac{\pi}{2}\right) < \left(\frac{1}{2}\right)(2x) < \left(\frac{1}{2}\right)\left(\frac{\pi}{2}\right)$$

$$\Rightarrow -\frac{\pi}{4} < x < \frac{\pi}{4}$$


13 $f(x) = \sec(x+\pi) + 1$

↳ first sketch (dotted)

$f(x) = \cos(x+\pi) + 1$

* Shift: $\uparrow 1 \leftarrow \pi$

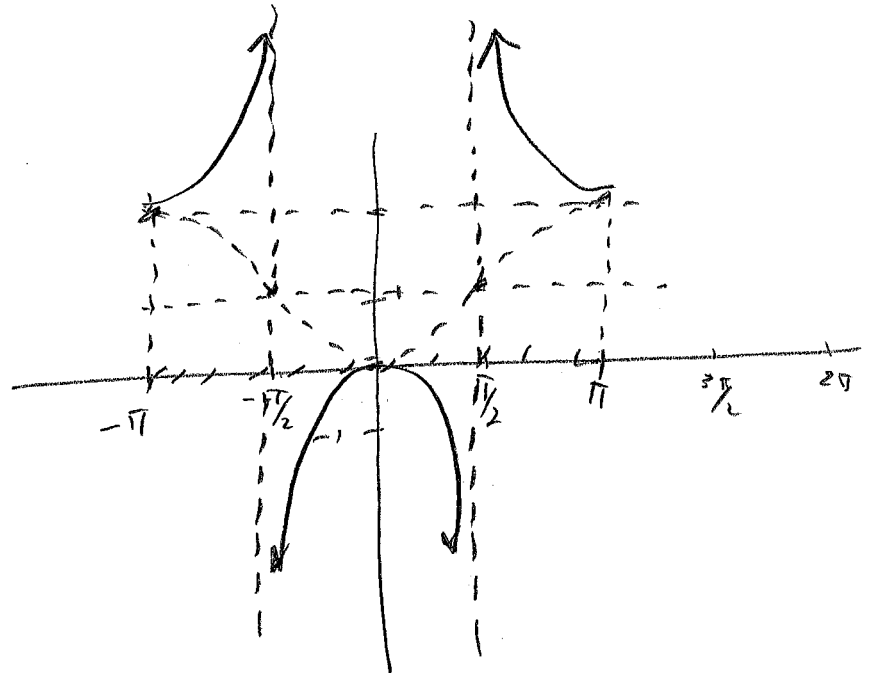
* Basic Shape:

* Standard Interval

$$\Rightarrow 0 \leq x + \pi < 2\pi$$

$$\frac{-\pi}{-1} \quad \frac{-\pi}{-1} \quad \frac{-\pi}{-1}$$

$$\Rightarrow -\pi \leq x < \pi$$



#14. $f(x) = 4 \cos(x) + 1$
↳ first sketch (dotted)

$$f(x) = 4 \sin(x) + 1$$

(*) Shift: $\uparrow 1$

(*) Basic shape: 

(*) Amp: $|4| = 4$

(*) Standard Interval

$$0 \leq x < 2\pi$$

