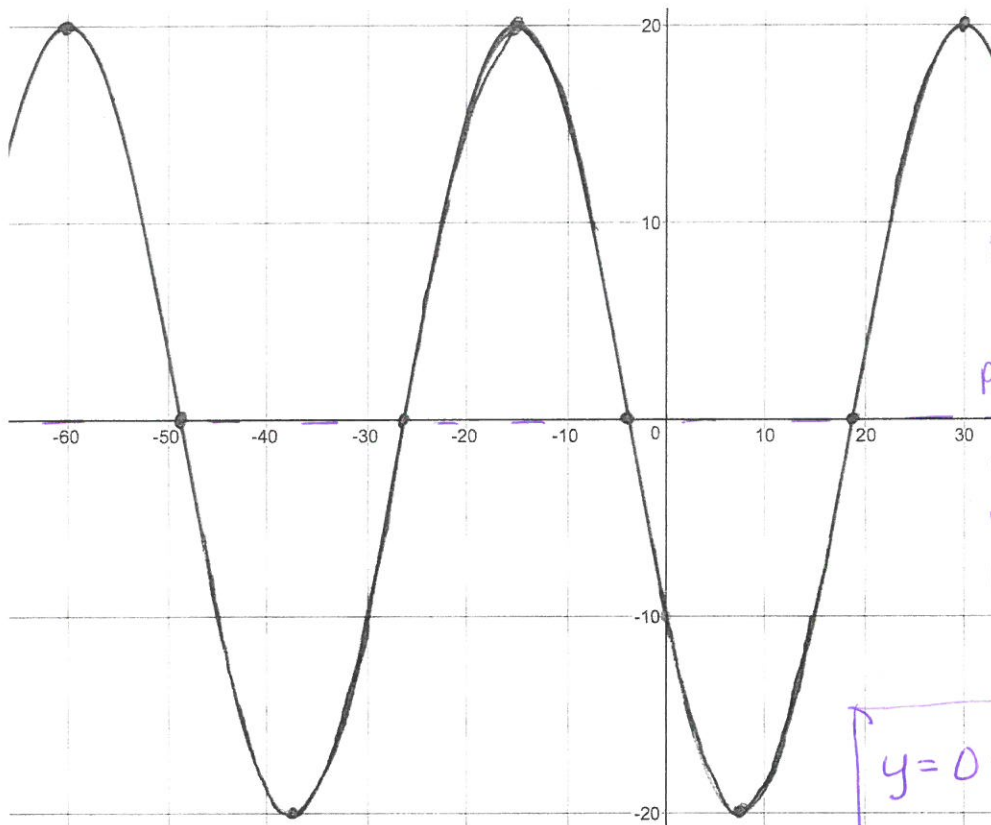


Section 3-2 Continued

Find a particular equation of the sinusoid that is graphed.

1.

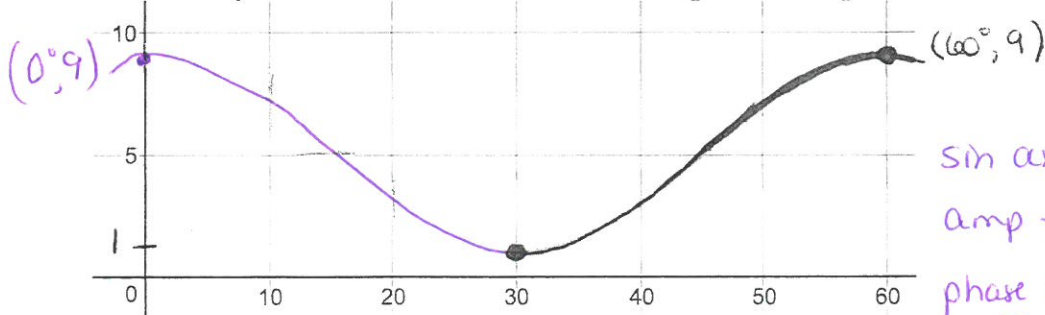


sin. axis  $\rightarrow y=0$   
 amp  $\rightarrow 20$   
 phase disp  $\rightarrow$  left  $15^\circ$   
 (for cosine)  $(-15^\circ)$

period  $\rightarrow 45^\circ$   
 $360^\circ \times hd = 45^\circ$   
 $hd = \frac{1}{8}$   
 $vt = 0$   
 $vd = 20$   
 $ht = -15^\circ$   
 $hd = \frac{1}{8}$

$y = 0 + 20 \cos 8(\theta + 15^\circ)$   
 OR  
 $y = 20 \cos 8(\theta + 15^\circ)$

2. A half-cycle of a sinusoid is shown. Find a particular equation.



\* Draw full cycle 1st

sin axis  $\rightarrow y=5$   
 amp  $\rightarrow 4$   
 phase disp  $\rightarrow 0^\circ$   
 (for cosine)

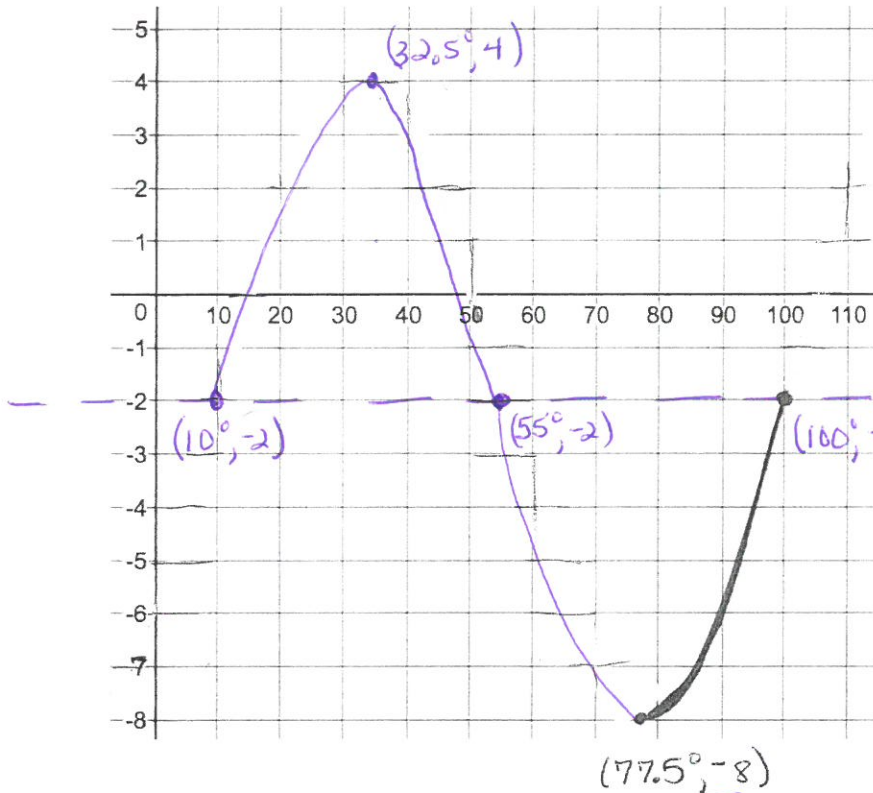
period  $\rightarrow 60^\circ$   
 $360^\circ \times hd = 60^\circ$   
 $hd = \frac{1}{6}$

$vt: 5$   
 $vd: 4$   
 $ht: 0$   
 $hd: \frac{1}{6}$

$y = 5 + 4 \cos 6(\theta)$

3. A quarter-cycle of a sinusoid is shown. Find a particular equation.

\* Draw full cycle 1<sup>st</sup>



$\frac{1}{4}$  cycle is  $22.5^\circ$   
( $100 - 77.5^\circ$ )

amp is 6  
(-2 to -8)

sin. axis  $\rightarrow y = -2$   
amp  $\rightarrow 6$   
phase disp  $\rightarrow 10^\circ$  (for sine)  
period  $\rightarrow 90^\circ$

$$y = -2 + 6 \sin 4(\theta - 10^\circ)$$

$v t = -2$   
 $v d = 6$   
 $h t = 10^\circ$   
 $h d = \frac{1}{4}$

$360^\circ \times h d = 90^\circ$   
 $h d = \frac{1}{4}$

(A,