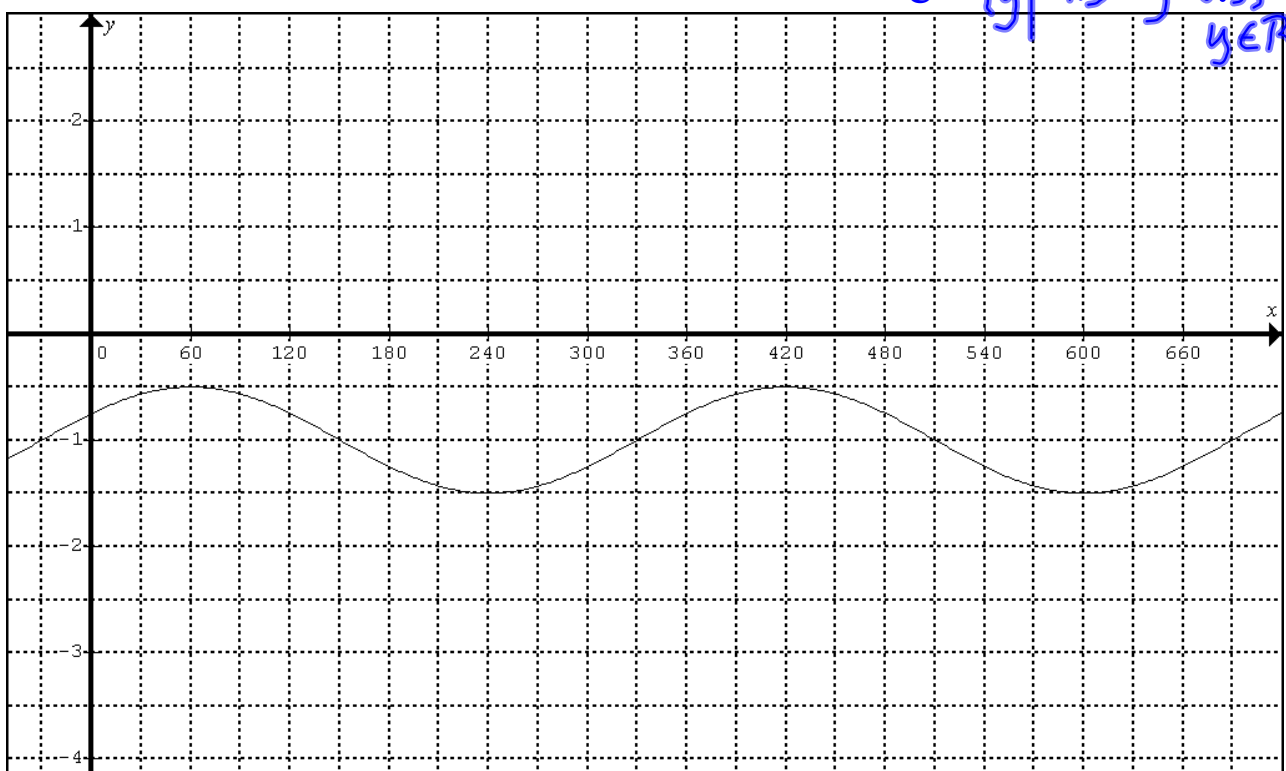


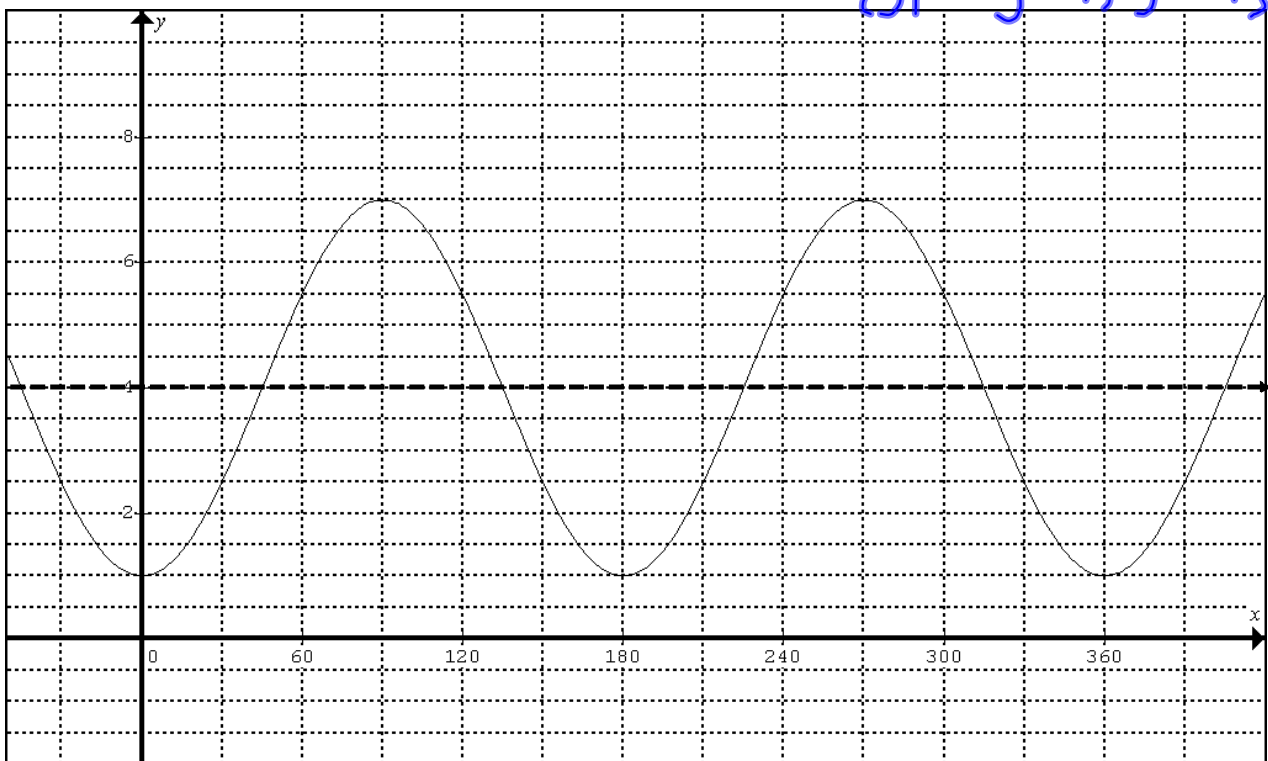
1. p.128 # 5 a. $(x, y) \Rightarrow (x - 30^\circ, \frac{1}{2}y - 1)$ Domain: $\{x | x \in \mathbb{R}\}$
 Range: $\{y | -1.5 \leq y \leq 0.5, y \in \mathbb{R}\}$




p.128 # 5 b. $(x, y) \rightarrow (\frac{1}{2}x, -3y + 4)$

Domain: $\{x | x \in \mathbb{R}\}$

Range: $\{y | 1 \leq y \leq 7, y \in \mathbb{R}\}$



2.  p.128 # 6

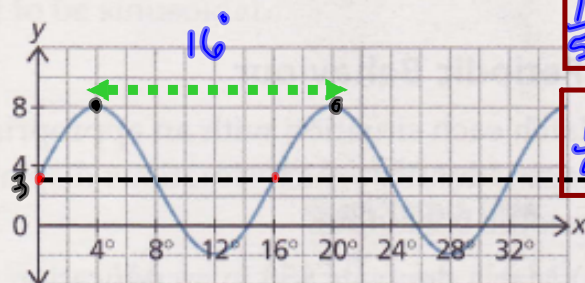
function	period	amplitude	sinusoidal axis
a.	360°	$\frac{1}{2}$	$y = -4$
b.	180°	3	$y = 0$
c.	120°	2	$y = 1$
d.	180°	1	$y = -3$

3. p.128

$$\frac{16}{360} = \frac{2}{45}$$

8. Determine the equation of the sinusoidal function based on each graph.

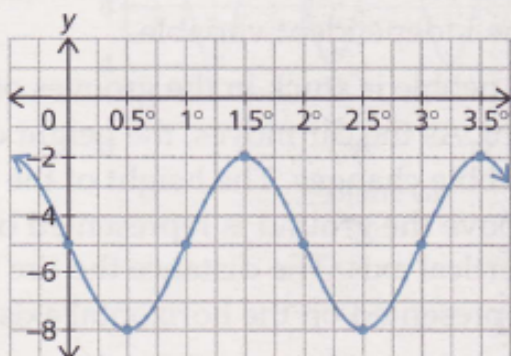
(a)



$$\frac{1}{5}(y-3) = \cos\left[\frac{45}{2}(x-4^\circ)\right]$$

$$\frac{1}{5}(y-3) = \sin\left[\frac{45}{2}x\right]$$

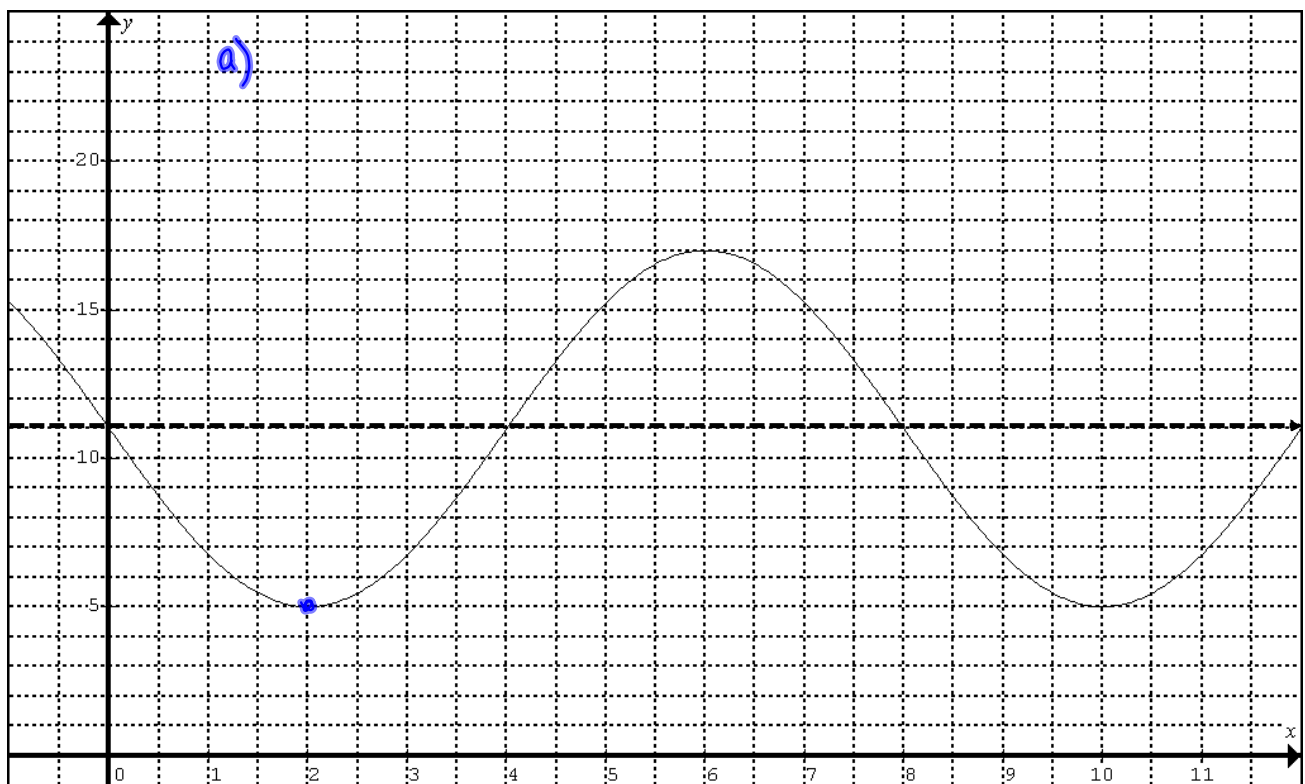
(b)



$$\frac{1}{3}(y+5) = \cos[180(x-1.5^\circ)]$$

$$-\frac{1}{3}(y+5) = \sin[180x]$$

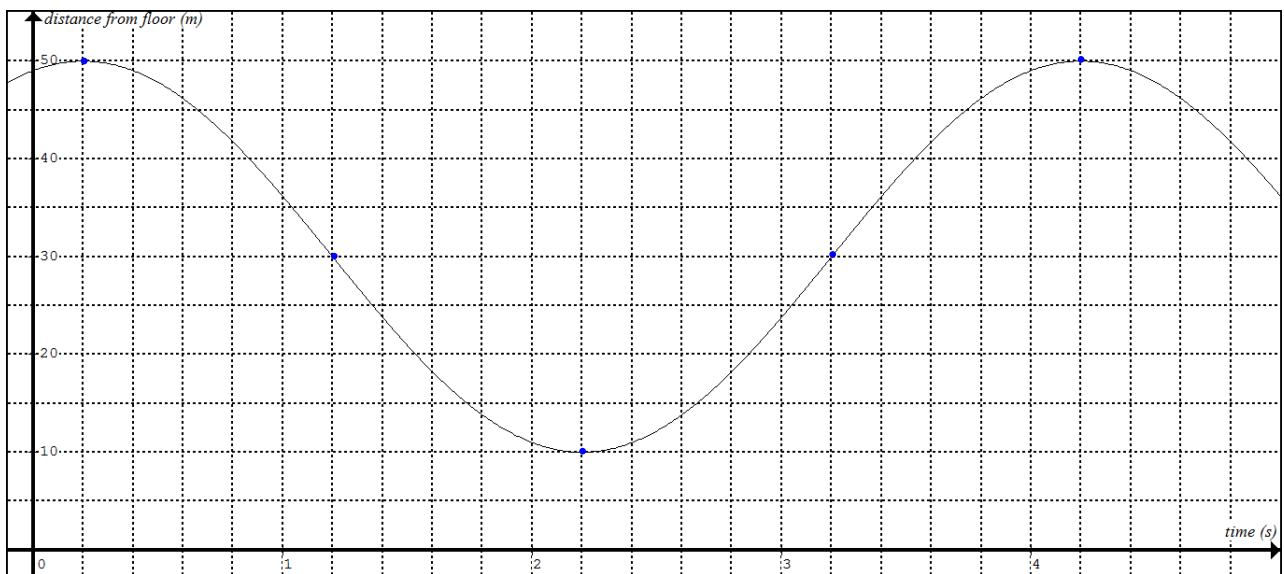
4. p.128 # 9



b) $-\frac{1}{6}(y-11) = \cos[45(x-2)]$

c) 15.24 m from building

5 a.



b. period = 4 s (Time for the spring to bounce from its highest point to the bottom of its bounce and back again)

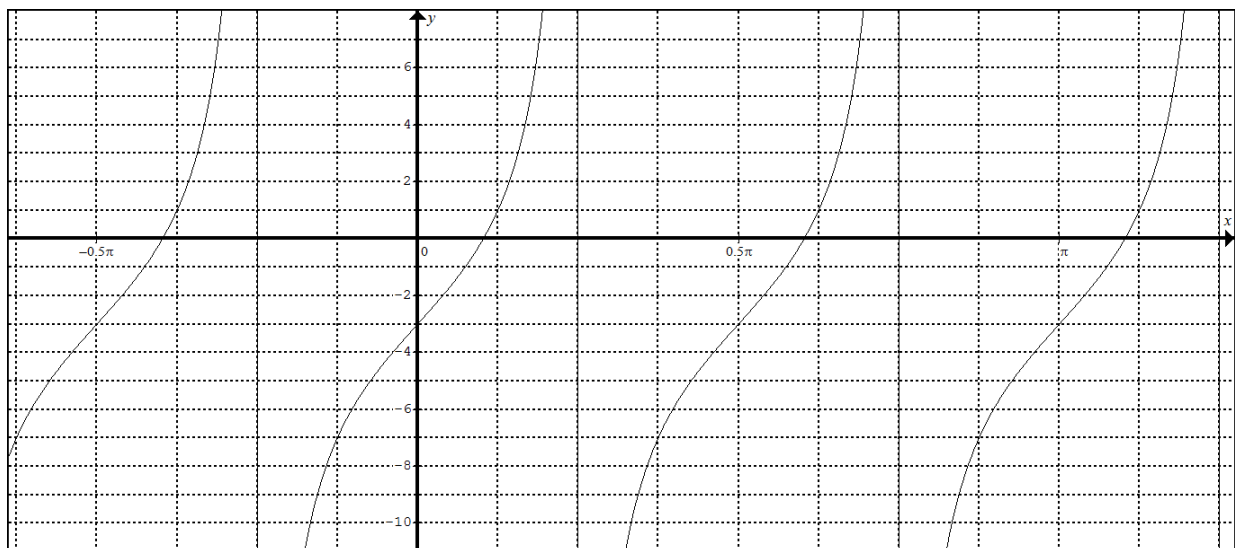
c. $(1/20)(d - 30) = \cos 90(t - 0.2)$

d. $d = 47.8 \text{ m}$

6. $y = 4 \tan 2(x - \frac{\pi}{2}) - 3$

$(x, y) \rightarrow (\frac{1}{2}x + \frac{\pi}{2}, 4y - 3)$

x	y	x	y
$-\frac{\pi}{2}$	undef.	$\frac{2\pi}{8}$	undef.
$-\frac{\pi}{4}$	-1	$\frac{3\pi}{8}$	-7
0	0	$\frac{4\pi}{8}$	-3
$\frac{\pi}{4}$	1	$\frac{5\pi}{8}$	1
$\frac{\pi}{2}$	undef.	$\frac{6\pi}{8}$	undef.



7. $2(y - 3) = \tan(x - 45^\circ)$