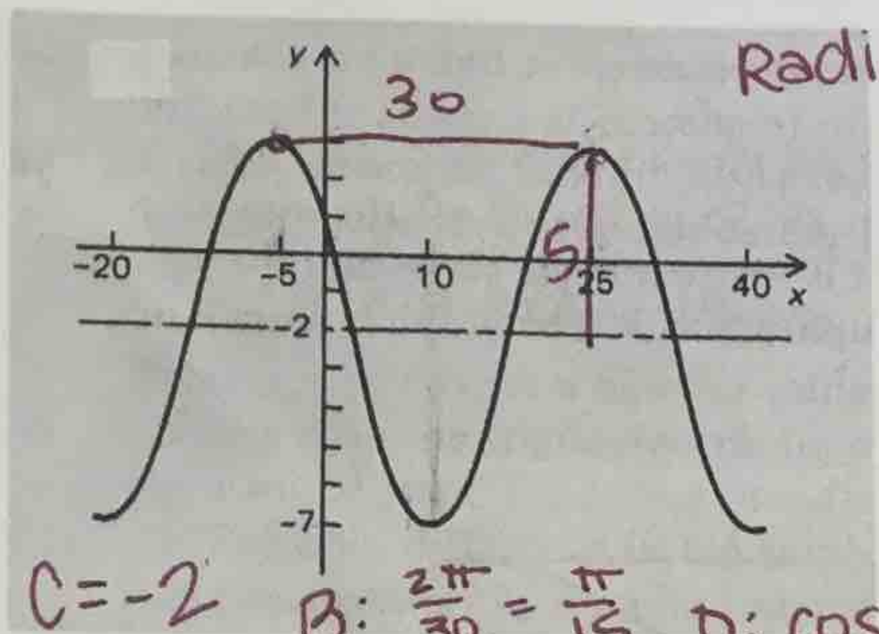
2.4 Writing Equations from Graphs

Name:_____

Given the graph write an equation. You will need to look closely at the x-axis to determine if the x values are in terms of degrees or radians. multiple correct answers

1. Radians

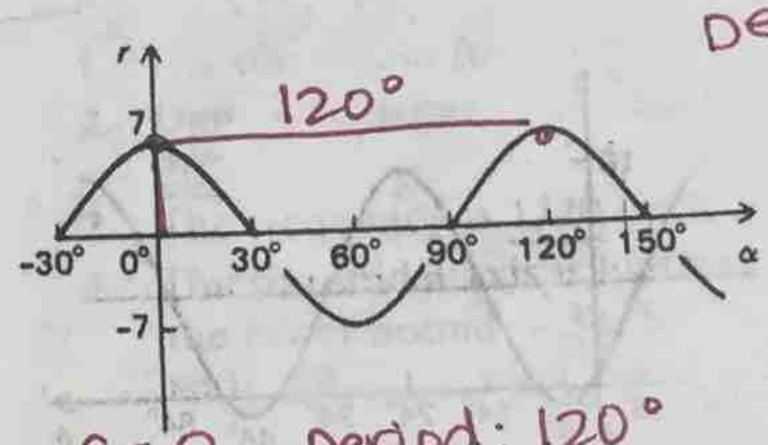


C = -2 B: $\frac{2\pi}{30} = \frac{\pi}{15}$ D: cos -5 or 25

A = 5 Period: 30

$y = -2 + 5\cos\frac{\pi}{15}(x+5)$

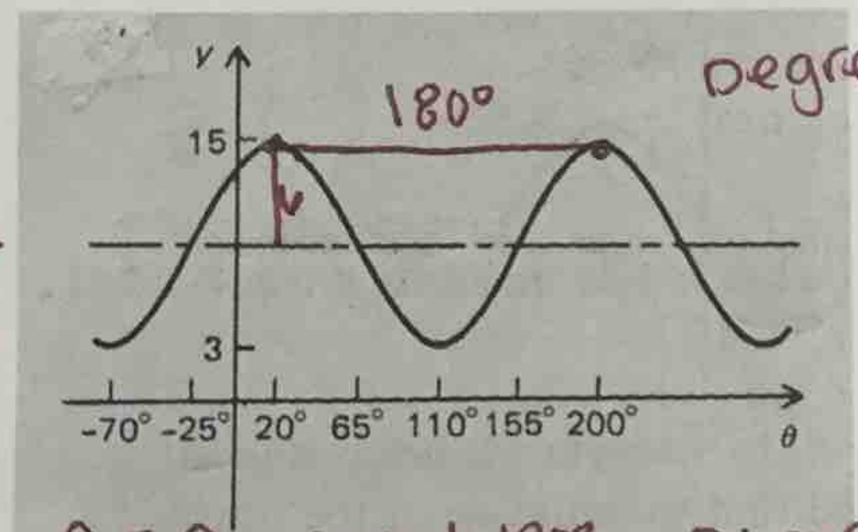
2. Degrees



C = 0 Period: 120° D: cos 0 or
A = 7 $B = \frac{360}{120} = 3$ sin 90/-3

$y = 7\sin 3(\theta + 30)$

3. Degrees

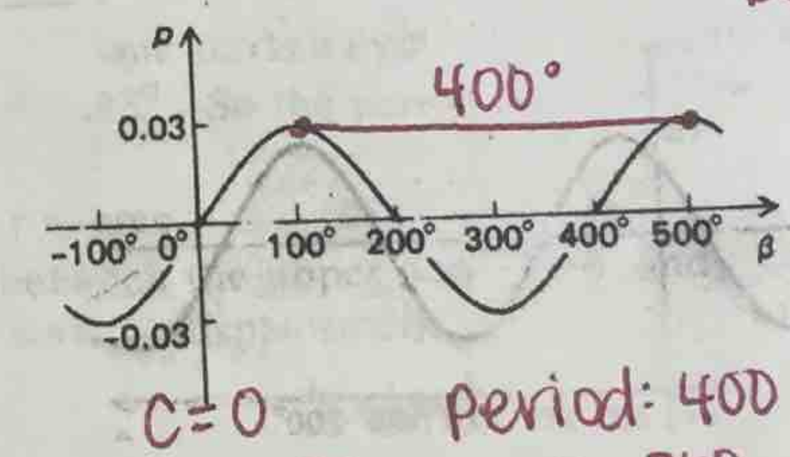


Total: 12
Half: 6

C = 9 Period: 180° D: cos 20 or 200
A = 6 $B = \frac{360}{180} = 2$ sin -25 or 155

$y = 9 + 6\cos 2(x-20)$

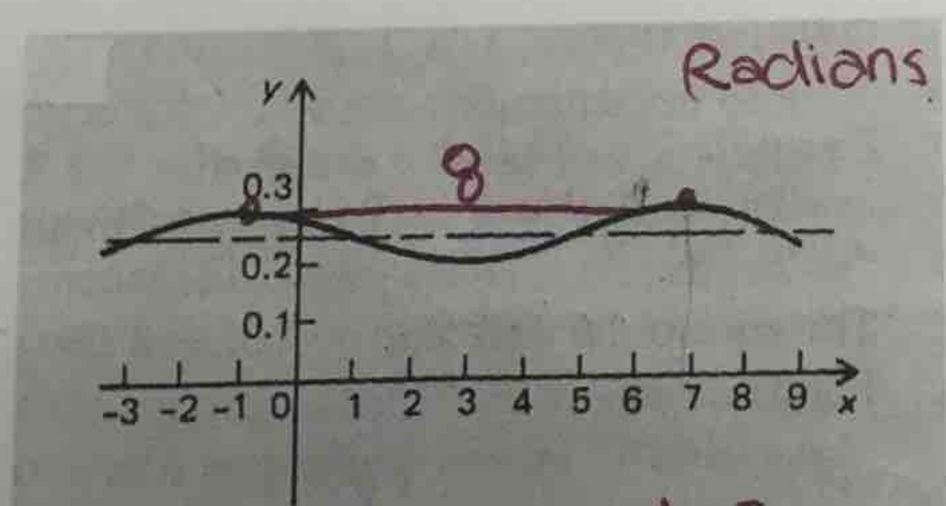
4. Degrees



C = 0 Period: 400 D: cos 100
A = 0.03 $B = \frac{360}{400} = \frac{9}{10}$ sin 0

$y = 0.03\sin\frac{9}{10}(\theta)$

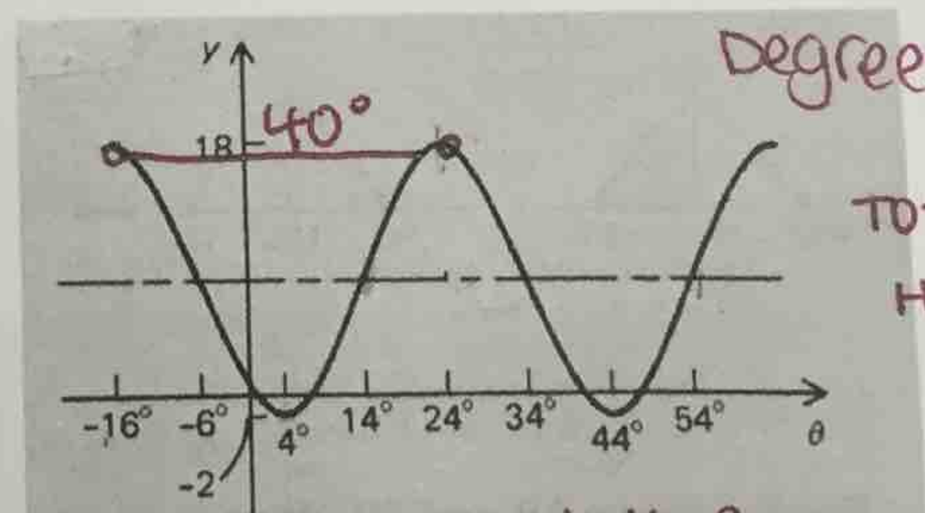
5. Radians



A = 0.05 Period: 8
C = 0.25 $B = \frac{2\pi}{8} = \frac{\pi}{4}$
D: cos -1 or 7
sin -3 or 5

$y = 0.25 + 0.05\cos\frac{\pi}{4}(x+1)$

6. Degrees

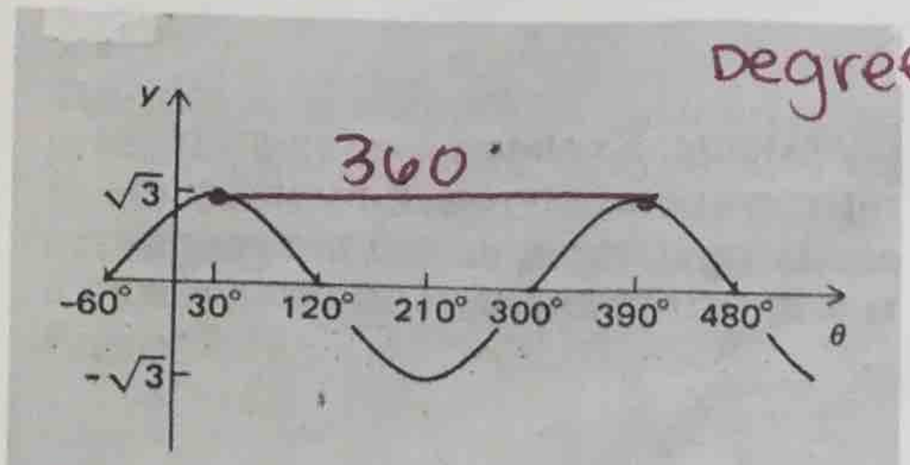


Total: 20
Half: 10

A = 10 Period: 40°
C = 8 $B = \frac{360}{40} = 9$
D: cos -16 or 24
sin 14 or 54

$y = 8 + 10\sin 9(x-14)$

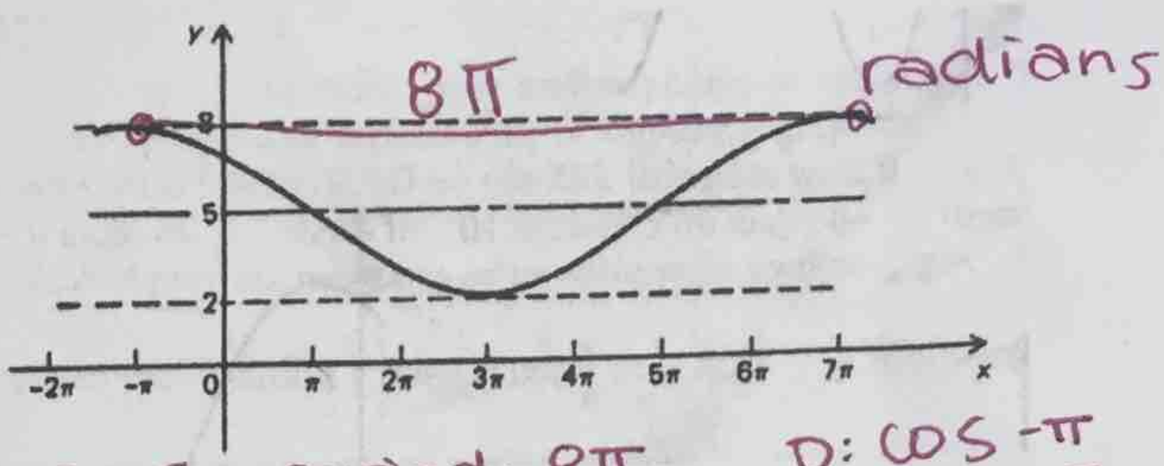
7.



C = 0 Period: 360° D: cos 30
A = √3 B = 360/360 = 1 sin -60

$y = \sqrt{3}\cos(\theta - 30)$

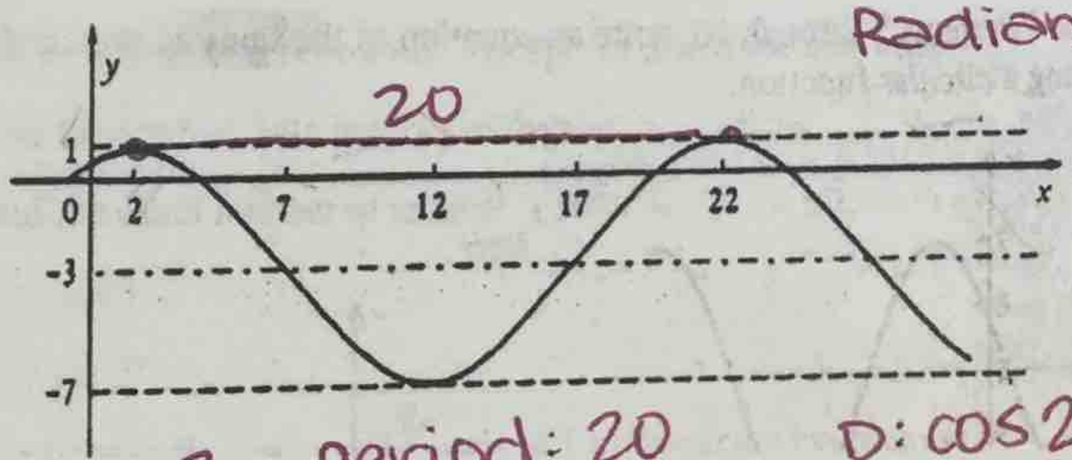
8.



C = 5 Period: 8π D: cos -π
A = 3 B = 2π/8π = 1/4 sin 5π

$y = 5 + 3\cos\frac{1}{4}(x + \pi)$

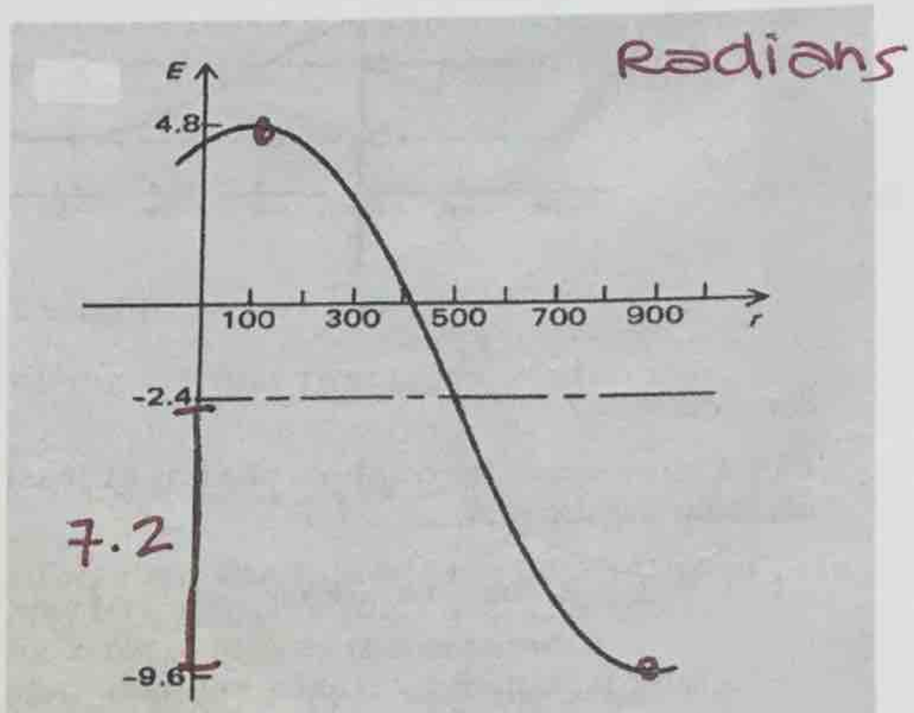
9.



C = -3 Period: 20 D: cos 2 or 22
A = 4 B = 2π/20 = π/10 sin 17

$y = -3 + 4\cos\frac{\pi}{10}(x - 2)$

10.

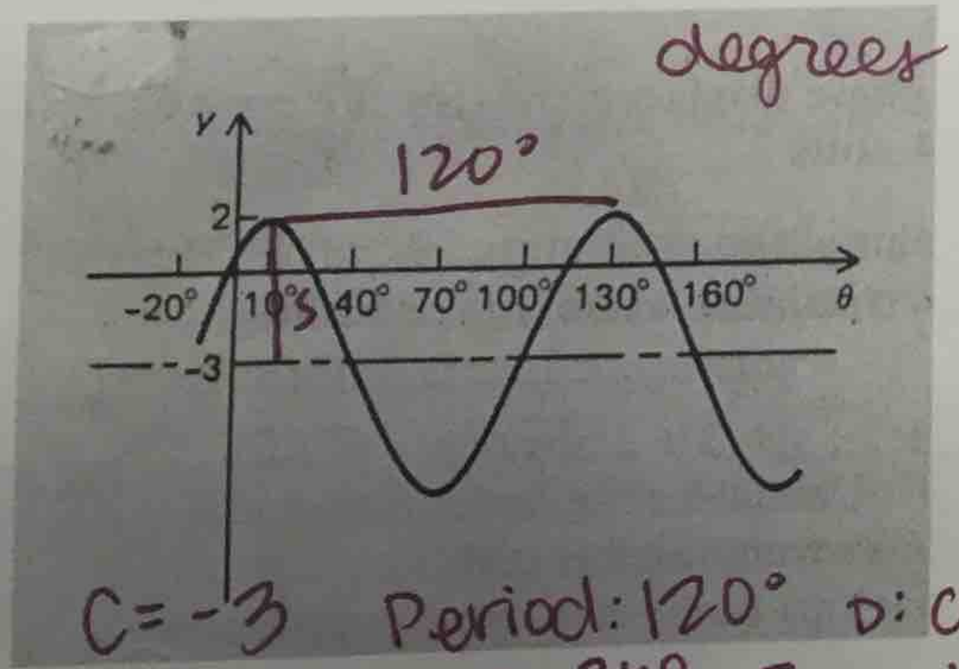


7.2

C = -2.4 ½ Period: 800 D: cos 100
A = 7.2 Per: 1600
B = 2π/1600 = π/800

$y = -2.4 + 7.2\cos\frac{\pi}{800}(x - 100)$

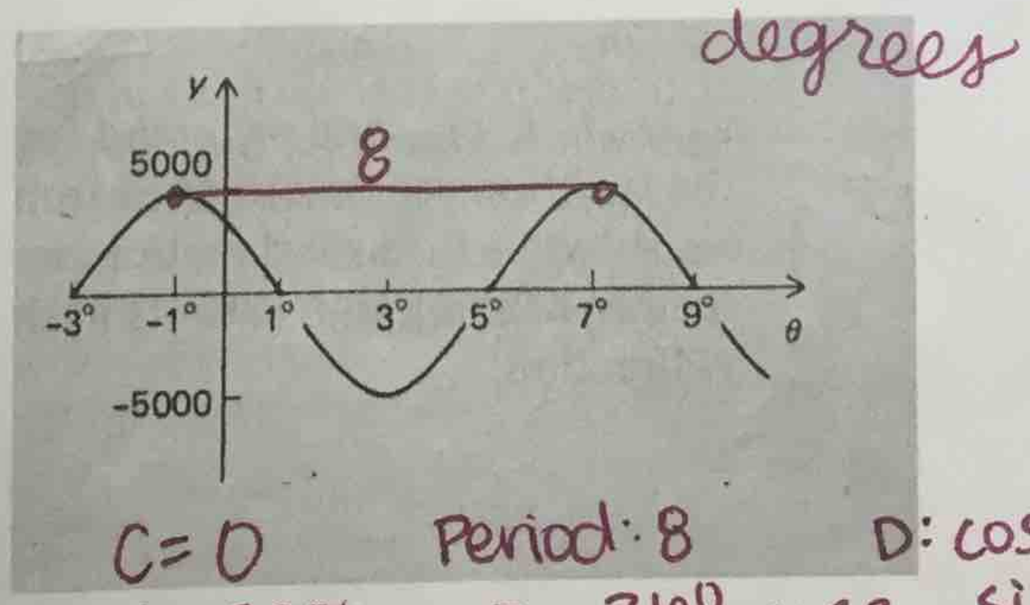
11.



C = -3 Period: 120° D: cos 10
A = 5 B = 360/120 = 3 sin 100

$y = -3 + 5\sin 3(\theta - 100)$

12.



C = 0 Period: 8 D: cos -1 or 7
A = 5000 B = 360/8 = 45° sin -3 or 5

$y = 5000\cos 45(\theta + 1)$