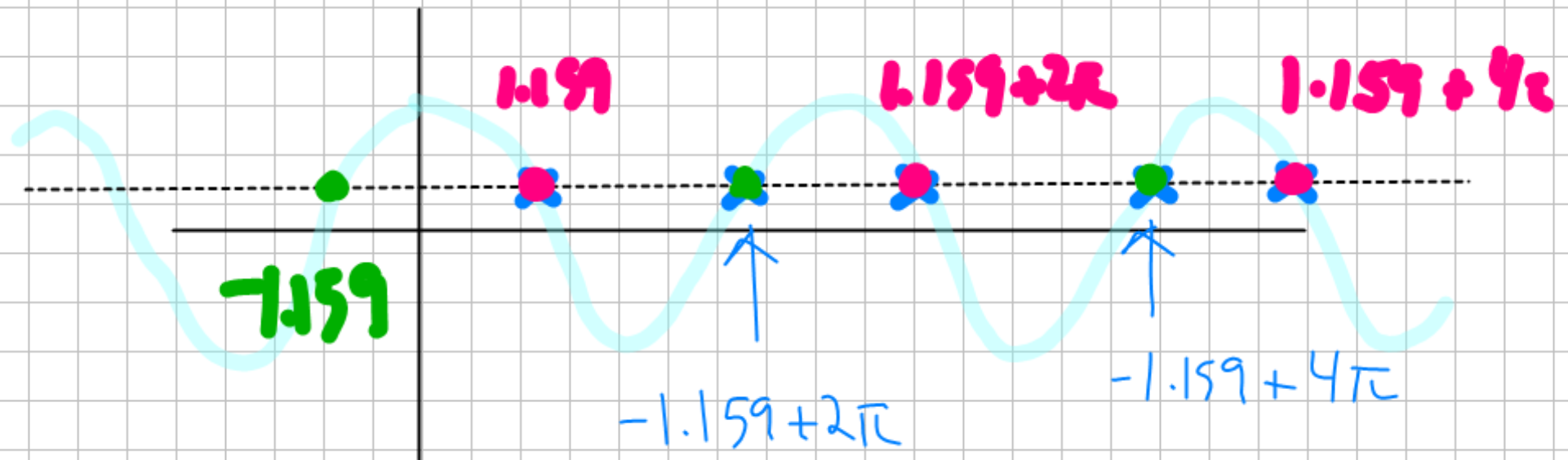


p.128 #2

$$\arccos(0.4) = x$$

$$x = \pm 1.159 + \underline{2\pi n}$$



8. a. $d = 1.3 + 0.2 \cos \frac{\pi}{5.5} (t - 14)$

b. $d(41) = 1.1081... \text{ m} \approx 1.1 \text{ m}$

c. $19.5 + 11 = 30.5 = 6:30 \text{ a.m. on August 3.}$

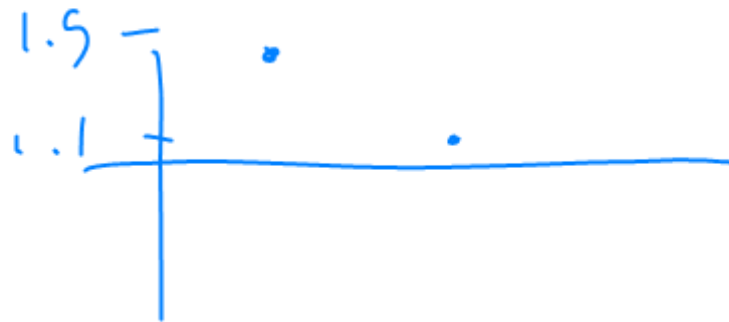
d. $1.3 + 0.2 \cos \frac{\pi}{5.5} (t - 14) = 1.27$

$$\Rightarrow t = 14 \pm \frac{5.5}{\pi} \left(\cos^{-1} \frac{1.27 - 1.3}{0.2} + 2\pi n \right)$$

$$= 28.0136... \approx 4:00:49 \text{ a.m.}$$

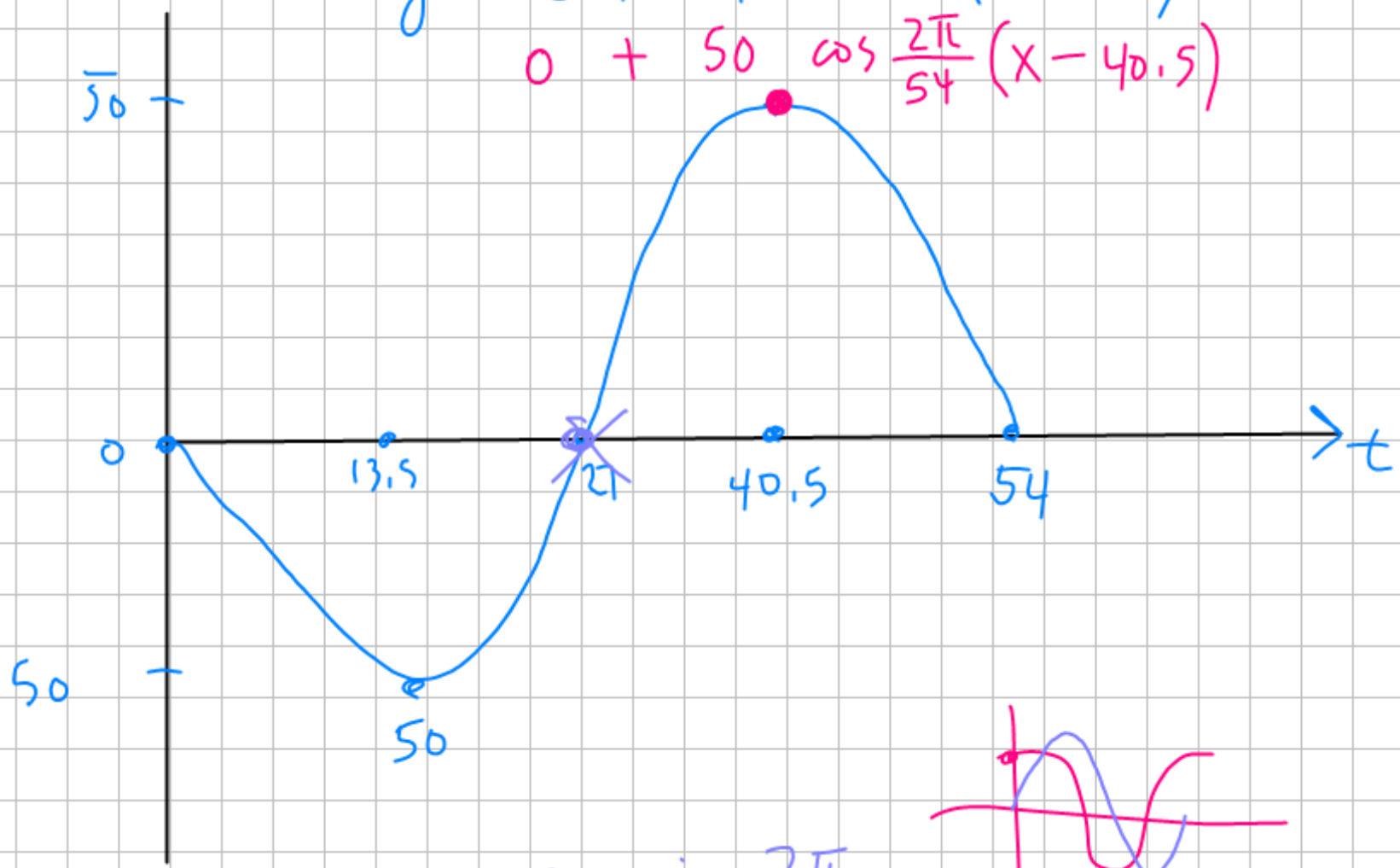
- e. On the side closest to the Moon, the water is pulled more than Earth, causing a high tide. On the opposite side, farthest from the Moon, the Earth is pulled more than the water, causing another high tide.

$$\frac{2\pi}{11} = \frac{\pi}{5.5}$$



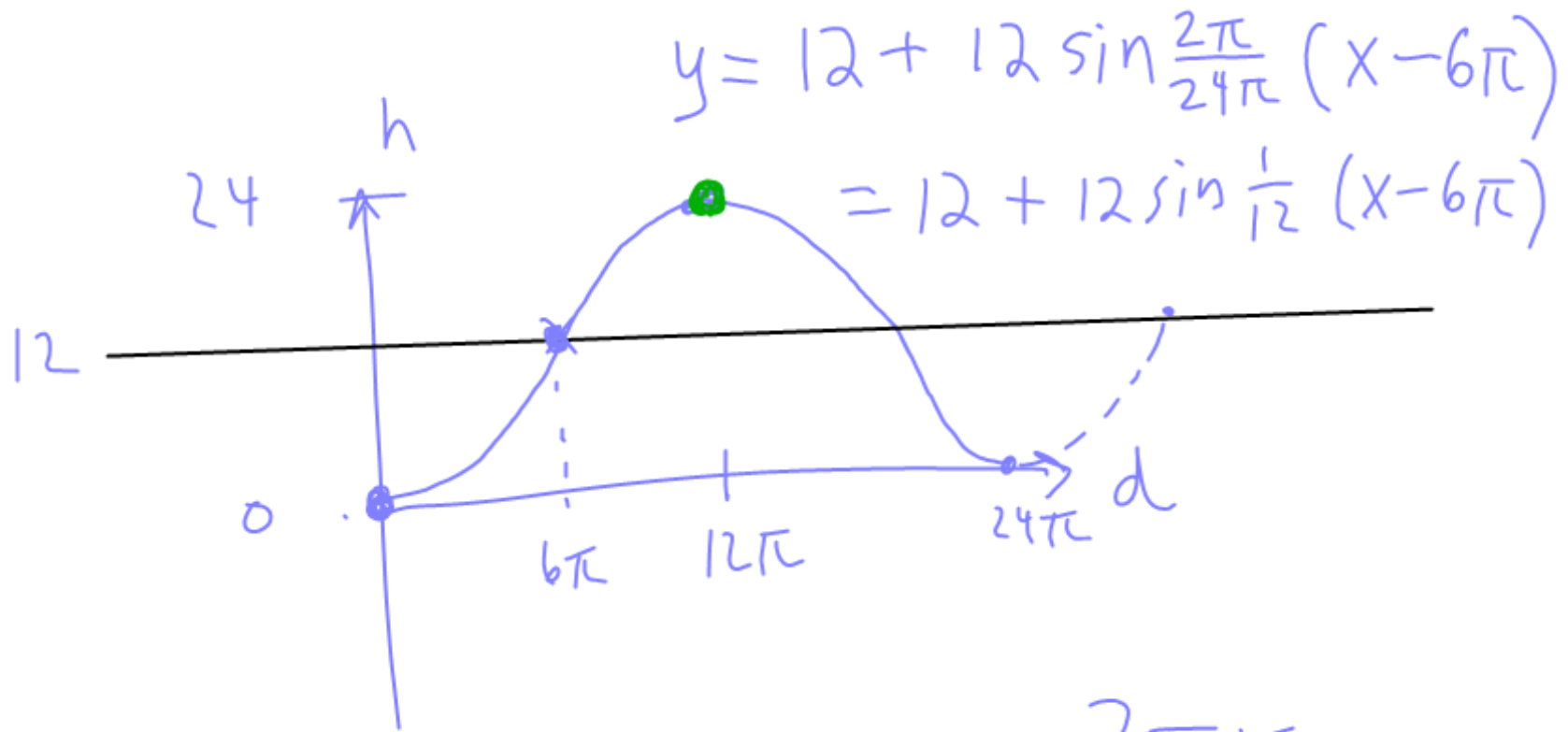
$$y = C + A \cos B(x - D)$$

$$0 + 50 \cos \frac{2\pi}{54} (x - 40.5)$$



$$y = -50 \sin \frac{2\pi}{54} (x)$$

$$= +50 \sin \frac{2\pi}{54} (x - 27)$$



$2\pi r$

$C = 2\pi (12) = 24\pi$



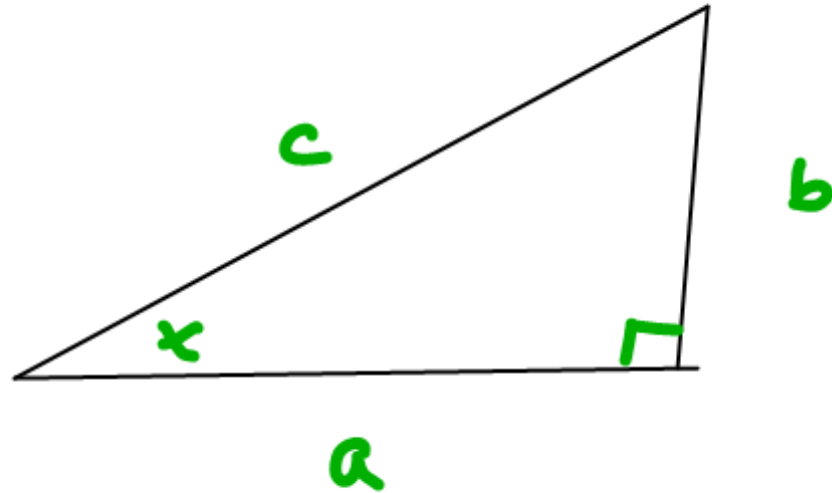
$y = 12 - 12 \cos \frac{1}{12} x$

θ	χ
0°	0
30°	$\frac{\pi}{6}$
45°	$\frac{\pi}{4}$
60°	$\frac{\pi}{3}$
90°	$\frac{\pi}{2}$
120°	$\frac{4\pi}{6}, \frac{2\pi}{3}$
135°	
150°	
180°	
360°	

4.1 Pythagorean Theorem

(in trig)

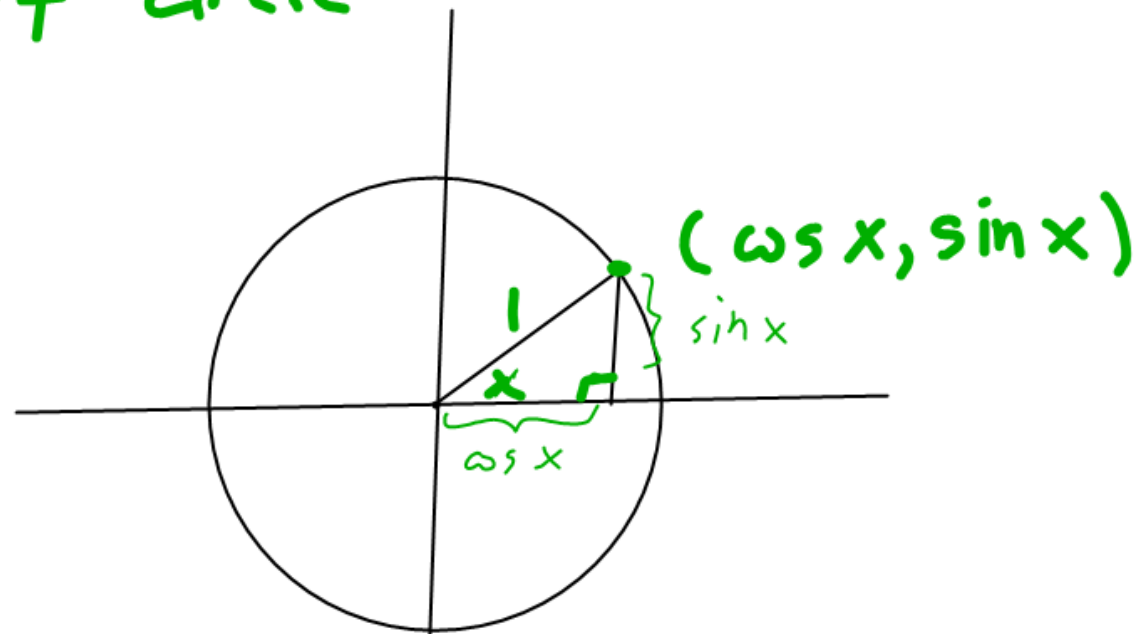
$$\cos^2 x + \sin^2 x = 1$$



$$a^2 + b^2 = c^2$$

Unit circle

λ



$$a^2 + b^2 = c^2$$

$$\cos^2 x + \sin^2 x = 1^2$$

$$\cos^2 x + \sin^2 x = 1$$