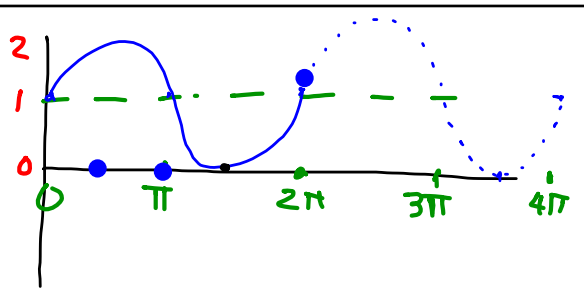
an early release day
Do question similar to #119

Questions on HW ?

116

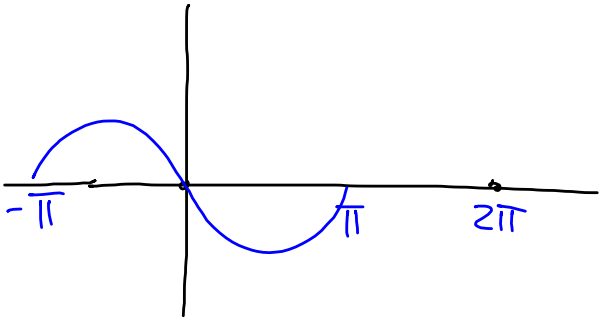
(a) $y = \sin(x)$ shifted up 1 unit



(b) $y = \sin(x) + 1$

(c) $\left(\frac{3\pi}{2}, 0\right), \left(\frac{7\pi}{2}, 0\right), \ldots \left(\frac{3\pi}{2} + 2\pi n, 0\right)$

117



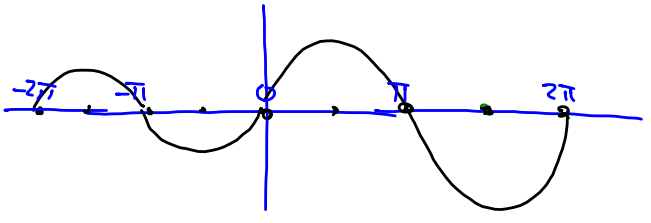
118

(a) Graduating class size ?

(b) hunger throughout day ?

(c) Tidal heights ?

120 $y = \cos x$ $y = \sin x$



122 a. $\frac{3}{x} + \frac{2}{x+1} = 5$

$\frac{3}{x} + \frac{2}{x+1} = 5$

b. $x^2 + 6x + 9 = 2x^2 + 3x + 5$

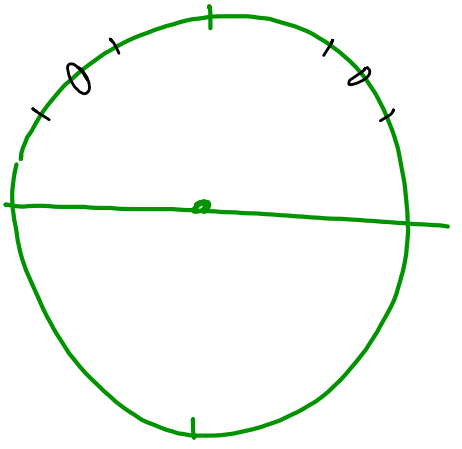
$0 = x^2 - 3x - 4$

c. $8 - \sqrt{9-x} = x+3$

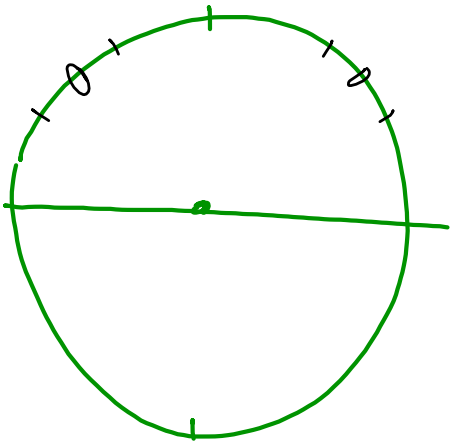
$-\sqrt{9-x} = x-5$

123 a. $\tan\left(\frac{2\pi}{3}\right)$

$=$

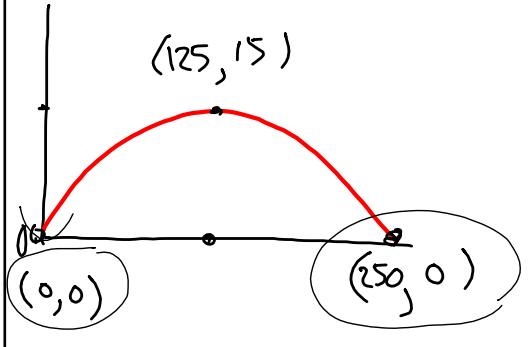


b. $\tan\left(\frac{7}{6}\pi\right)$



124

250 yard shot
15 yards high



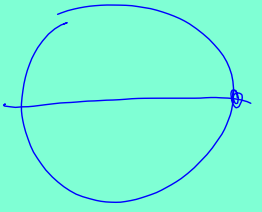
$y = a(x-h)^2 + k$

$y = a(x-125)^2 + 15$

$0 = a(250-125)^2 + 15$

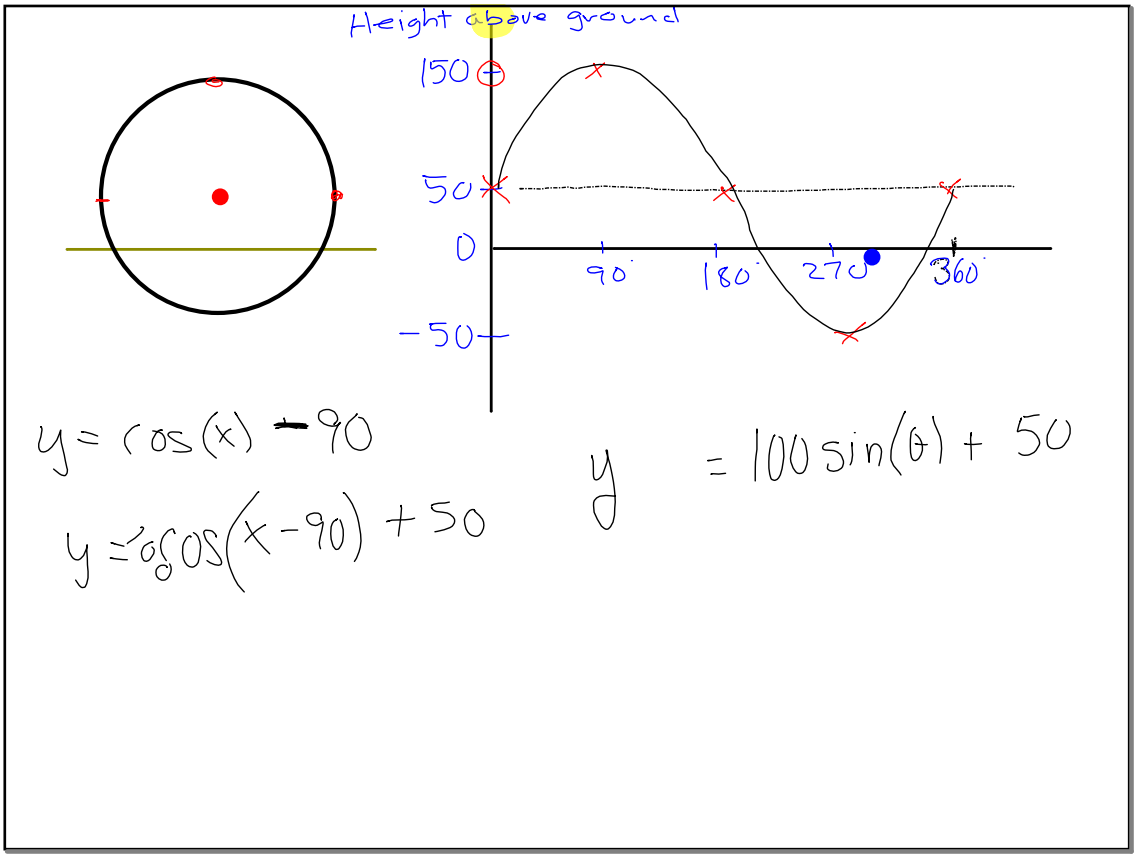
A variation on the screamer

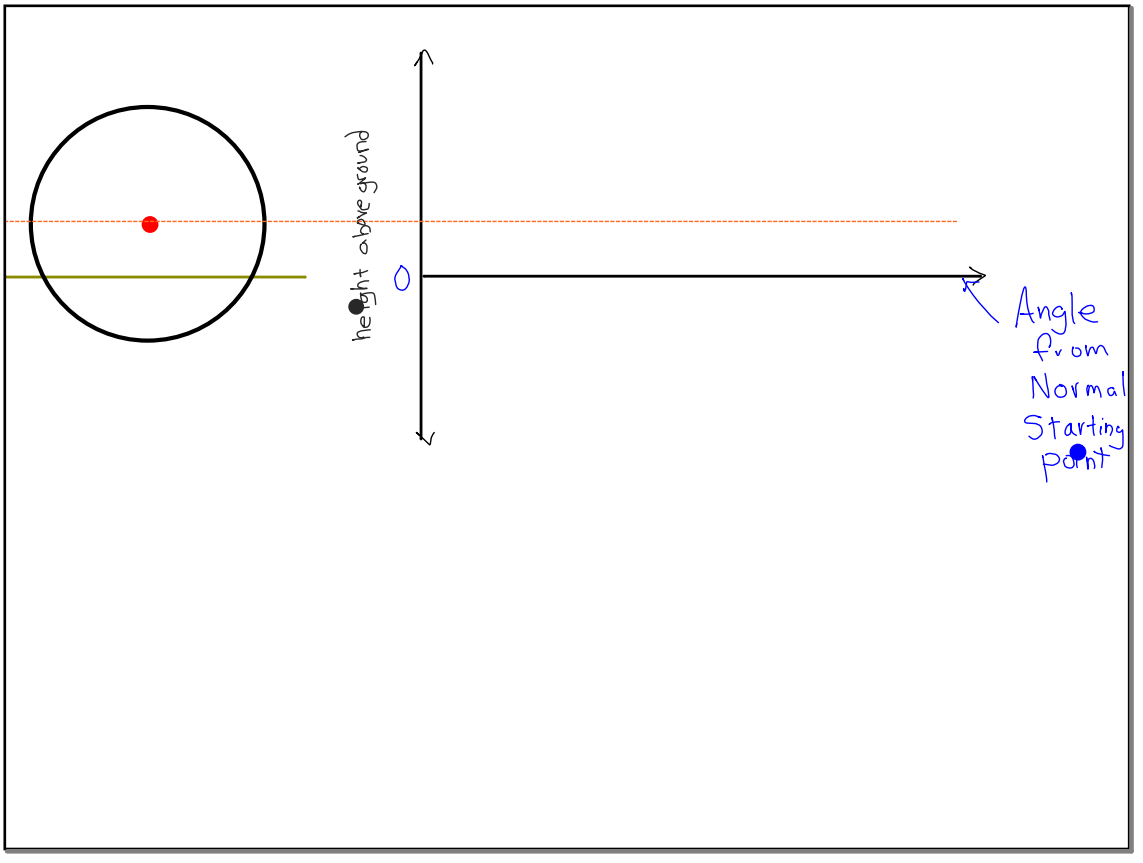
[To apply transformations]

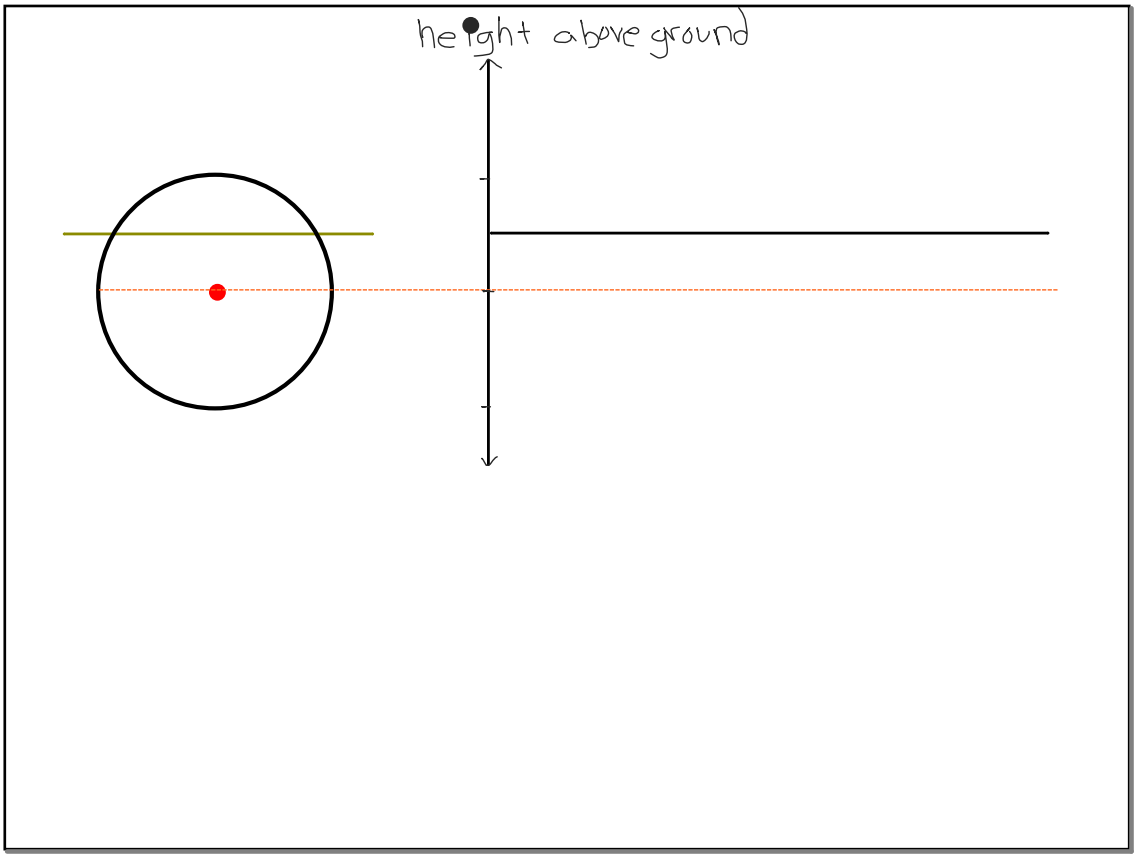


Classwork name _____

The Amusement Park has decided to imitate *The Screamer* but wants to make it even better. Their ride will consist of a circular track with a radius of 100 feet, and the center of the circle will be 50 feet ABOVE ground. Passengers will board at the normal spot which will now be 50 feet above ground (riders will climb up stairs to board another words). Write a function that relates the angle traveled *from the starting point* to the height of the rider above or below the ground. (HINT: Draw a diagram to help).


Height above ground
150
50
0
-50
90
180
270
360
y = cos(x) - 90
y = 100 sin(θ) + 50
y = 50 cos(x - 90) + 50


height above ground
0
Angle from Normal
Starting point



Sketch Artists

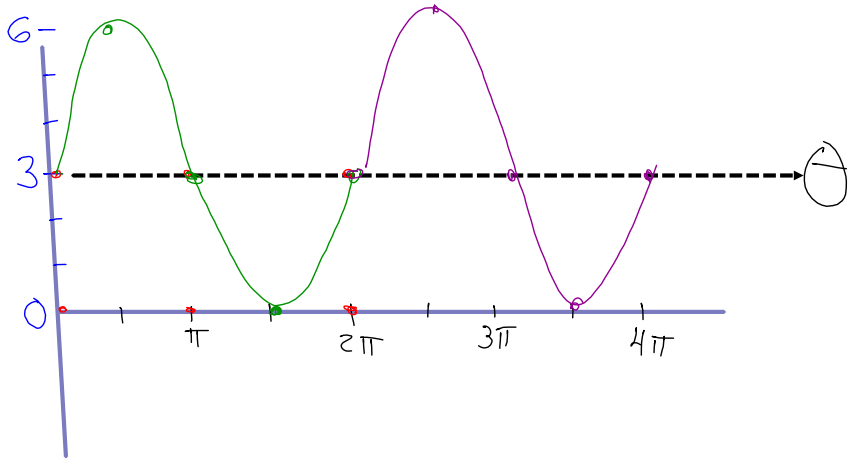
NOTES

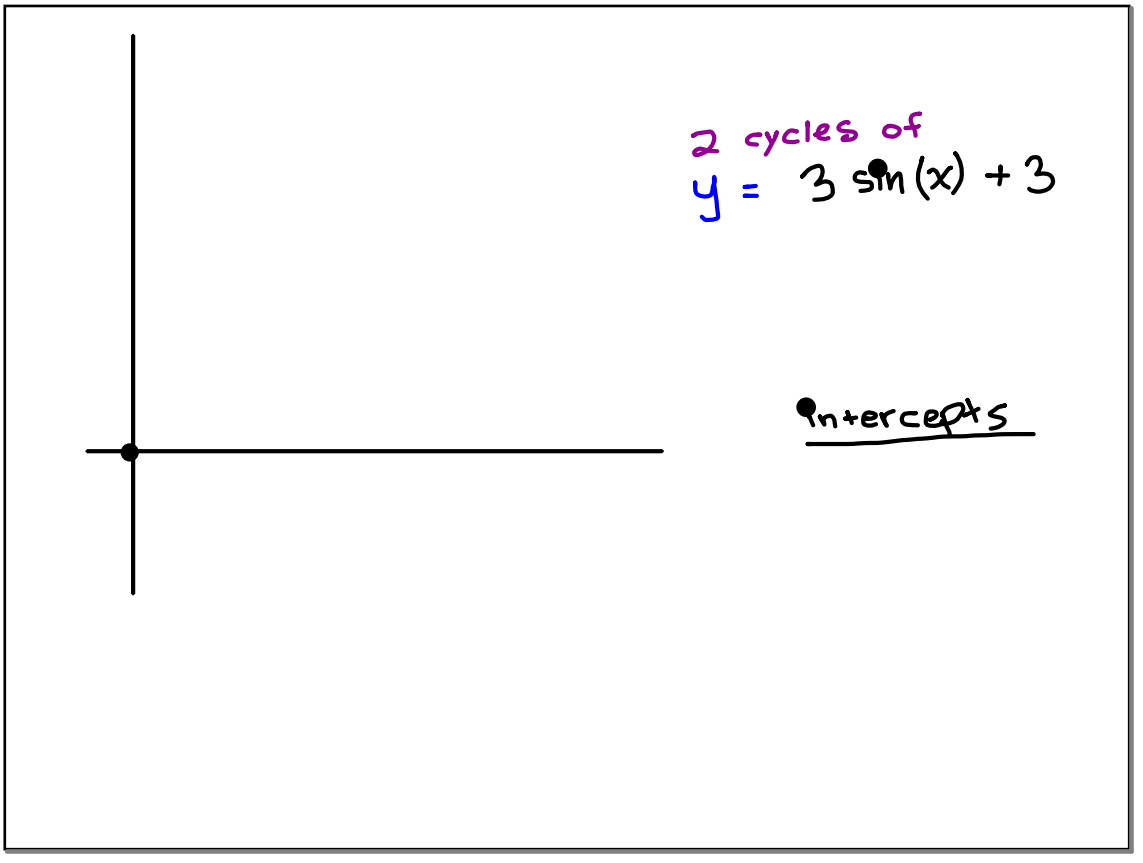
Sketch - then label intercepts

$\frac{3\pi}{2}$ $\frac{\pi}{2}$

2 cycles of

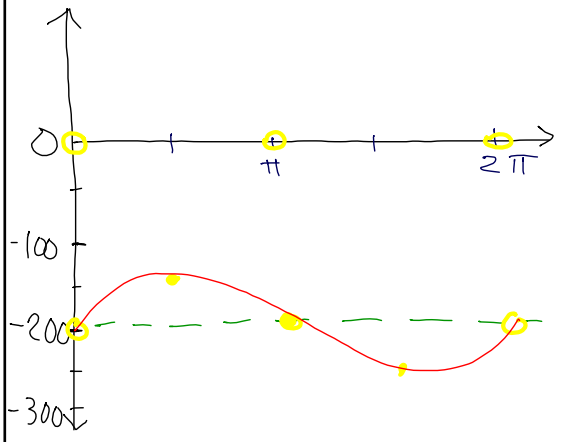
$y = 3\sin(x) + 3$





Verify on GDC

Sketch $y = 50\sin(x) - 200$



Sketch $y = \cos\theta + 3$

Four Question Assignment:

7....119

10....13a , 101a, 103b