Trig 6.3

I have/who has

Identify periodic functions
Use the graphs of sine and cosine functions

sine

cosine

period

periodic functions

triangle puzzle
Graphing calculators

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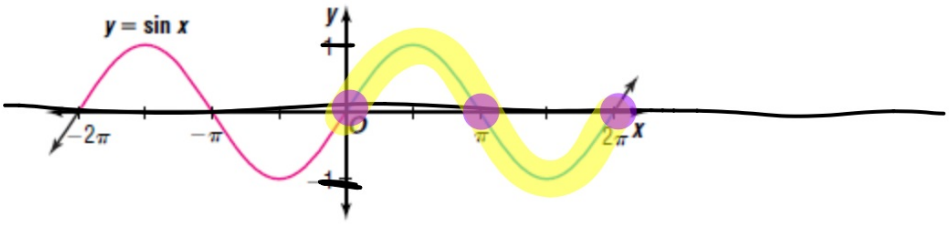
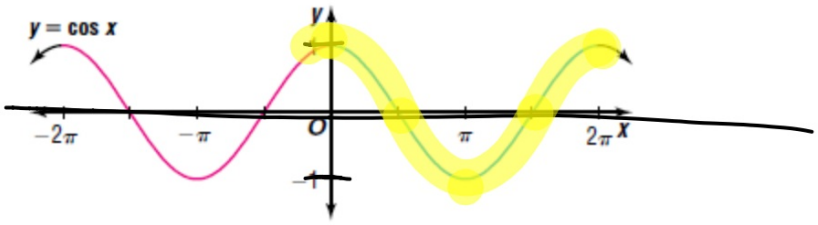
WILL YOU SIGN MY YEARBOOK?
OKAY.
YEARBOOK
What can I say, ya for the girls! It's been a great year sitting beside you every day in chem class. I'll never forget when Mr. Morrison dropped the big jar of chemicals all over the floor, hahaha!
Be happy!
Alex
Nice knowing you I guess. Mark
Bio was so much fun with you, will miss you!
Your BFF Amy
sine
θ
1
-1



Properties of the Graph of $y = \sin x$

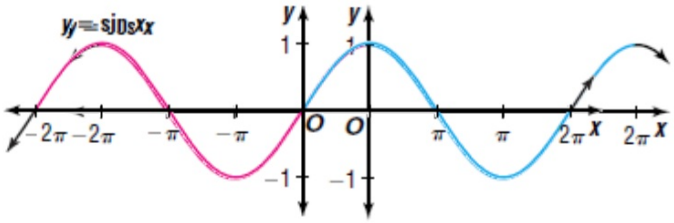
1. The period is 2π.
2. The domain is the set of real numbers.
3. The range is the set of real numbers between -1 and 1, inclusive.
4. The x-intercepts are located at πn, where n is an integer.
5. The y-intercept is 0.
6. The maximum values are $y = 1$ and occur when $x = \frac{\pi}{2} + 2\pi n$, where n is an integer.
7. The minimum values are $y = -1$ and occur when $x = \frac{3\pi}{2} + 2\pi n$, where n is an integer.

<http://ck022.k12.sd.us/images/SineCurve.MOV>

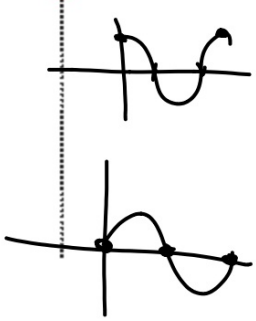


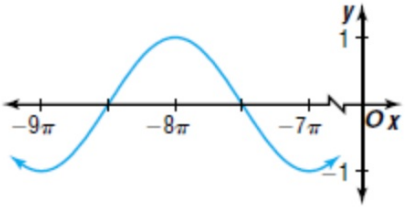
Properties of the Graph of $y = \cos x$

1. The period is 2π.
2. The domain is the set of real numbers.
3. The range is the set of real numbers between -1 and 1, inclusive.
4. The x-intercepts are located at $\frac{\pi}{2} + \pi n$, where n is an integer.
5. The y-intercept is 1.
6. The maximum values are $y = 1$ and occur when $x = \pi n$, where n is an even integer.
7. The minimum values are $y = -1$ and occur when $x = \pi n$, where n is an odd integer.


y
1
O
−1
−2π
−π
π
2π
x

6 Determine whether the graph represents $y = \sin x$, $y = \cos x$, or neither.





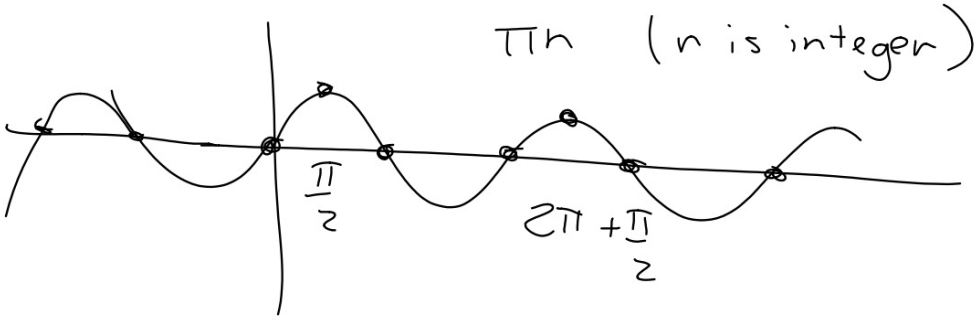
Does it have a range -1<y<1 ?
Does it have appropriate period? (360 or 2π)
Does it have appropriate x-intercepts?

$\sin\theta = 1$

$\frac{\pi}{2} + 2\pi n$

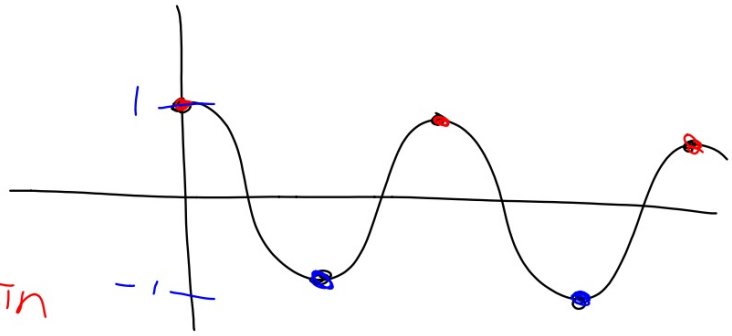
$\sin\theta = 0$

πn (n is integer)



WB 6.3

$\cos\theta = -1$



$0 + 2\pi n$

$\pi + 2\pi n$