You need a calculator for today's lesson.

Be sure to look at #6 & 7 online from yesterday's notes.
Review Thursday & Unit 7 Test Friday.
HW tonight: 1st review in packet: Unit 7 Test Review.

Extra Reviews:
1) Castle Learning Unit 7 Review
2) 2nd/Last Review in your packet (key posted online)

Jan 7-8:25 PM

Homework 7-8

1. 7/6
2. 4/9
3. 4/13
4. II
5. IV
6. I
7. 1
8. (-x, -y)

#9 - 12 see next slide

Aug 13-8:11 PM

Name: Key

Algebra 2 Homework 7-7

Period :

1. If cos (B) = 6/7, then sec(B) = 7/6
2. If csc (A) = 9/4, then sin (A) = 4/9
3. If tan (A) = 13/4, then cot (A) = 4/13
4. If csc(A) > 0 and tan(A) < 0 , then angle A must be in quadrant II.
   Sin + tan −
5. If cos(A) > 0 and csc(A) < 0 , then angle A must be in quadrant IV.
   Cos + Sin −
6. If tan(A) > 0 and csc(A) > 0 , then angle A must be in quadrant I.
   tan + Sin +

S | A
T | C

7. The terminal side of θ, an angle in standard position, intersects the unit circle at $P\left(-\frac{1}{3}, -\frac{\sqrt{8}}{3}\right)$.
   Cos Sin
   What is the value of sec(θ)? **(Regents Question)**

   (1) -3 (3) $-\frac{1}{3}$

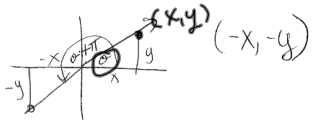
   (2) $-\frac{3\sqrt{8}}{8}$ (4) $-\frac{\sqrt{8}}{3}$

   $\cos(\theta) = \frac{-1}{3}$

   $\sec(\theta) = -3$

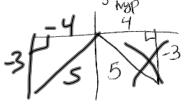
8. If $\measuredangle\theta$ is in quadrant I and passes through the point (x, y) on the unit circle, what would be the coordinates of the points at angles $(\theta + \pi)$?

   $\theta + 180°$



#9-11: For the following problems, draw a sketch and find all remaining trig values.

9. $\sin(\theta) = \frac{-3}{5}$ opp and $\sec(\theta) < 0$. cos − IV

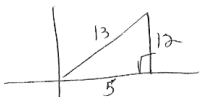


$\sin(\theta) = \frac{-3}{5}$ $\csc(\theta) = \frac{5}{-3}$

$\cos(\theta) = \frac{4}{5}$ $\sec(\theta) = \frac{5}{4}$

$\tan(\theta) = \frac{-3}{4}$ $\cot(\theta) = \frac{4}{-3}$

10. $\cos(\theta) = \frac{5}{13}$ adj and $\csc(\theta) > 0$. I
    hyp sin +

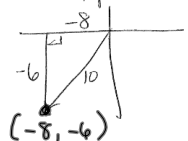


$\sin(\theta) = \frac{12}{13}$ $\csc(\theta) = \frac{13}{12}$

$\cos(\theta) = \frac{5}{13}$ $\sec(\theta) = \frac{13}{5}$

$\tan(\theta) = \frac{12}{5}$ $\cot(\theta) = \frac{5}{12}$

11. $\cos(\theta) = \frac{-8}{10}$ adj and $\tan(\theta) > 0$. III
    hyp



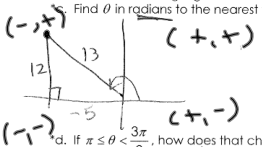
$\sin(\theta) = \frac{-6}{10}$ $\csc(\theta) = \frac{-10}{6}$

$\cos(\theta) = \frac{-8}{10}$ $\sec(\theta) = \frac{-10}{-8}$

$\tan(\theta) = \frac{-6}{-8} = \frac{6}{8}$ $\cot(\theta) = \frac{8}{6}$

QII

12. Given $\sin(\theta) = \frac{12}{13}$ and θ is an obtuse angle less than π radians.
    a. Draw a sketch.
    b. Find the remaining trig values.
    c. Find θ in radians to the nearest tenth.



$\sin(\theta) = \frac{12}{13}$ $\csc(\theta) = \frac{13}{12}$

$\cos(\theta) = \frac{-5}{13}$ $\sec(\theta) = \frac{13}{-5}$

$\tan(\theta) = \frac{-12}{5}$ $\cot(\theta) = \frac{-5}{12}$

$m\measuredangle\theta =$

$\alpha = \sin^{-1}(12/13) = 1.2$ rad

$\theta = \pi - 1.2 = 1.9$ rad

d. If $\pi \le \theta < \frac{3\pi}{2}$, how does that change your answers?

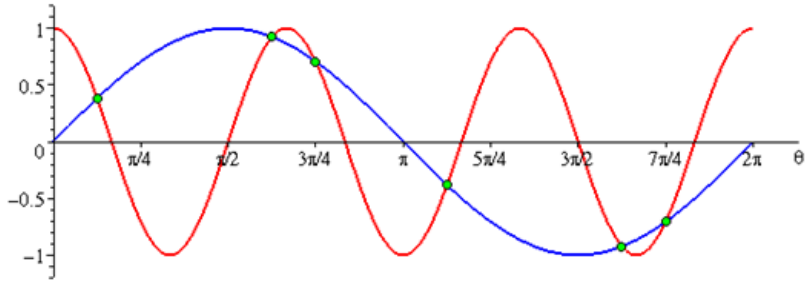
signs change for part b

$\theta = \pi + 1.2 = 4.3$ rad.

Chapter 8

Modeling Trigonometric Situations (Trig Graphing)

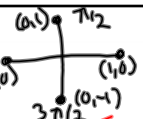
Today's Lesson Goal: Learn how to sketch basic sine, cosine and tangent graphs. Be able to answer property questions about each graph.



Feb 6-6:21 PM

$y = \sin(x)$

$f(x) = \sin(x)$

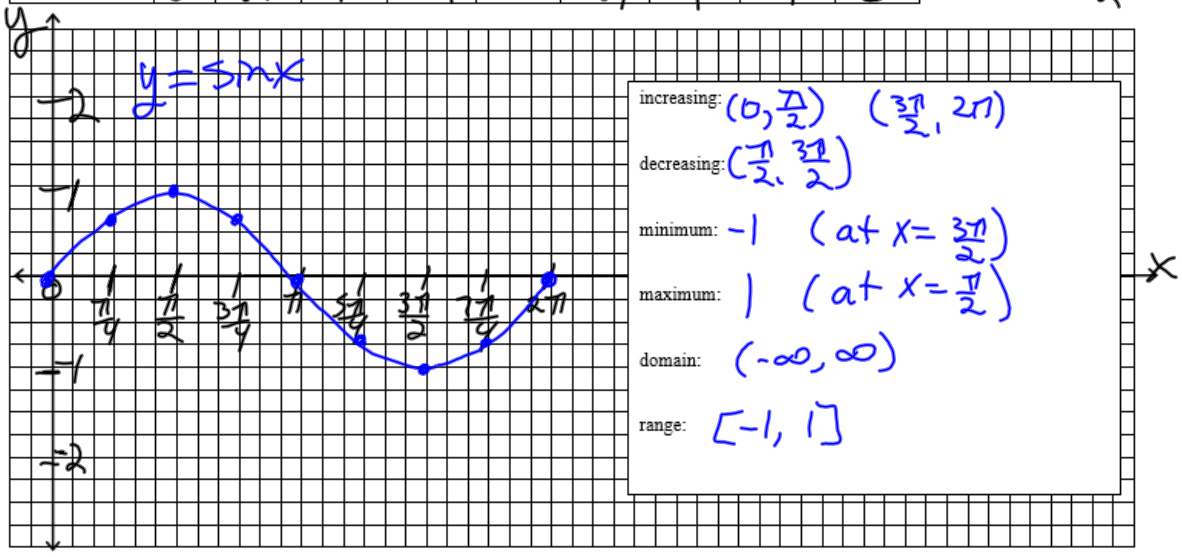


0, 2π

Day 1: Basic Sine, Cosine & Tangent Graphs

Radians (x)	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π	$\frac{5\pi}{4}$	$\frac{3\pi}{2}$	$\frac{7\pi}{4}$	2π
Degrees (x)	0°	45°	90°	135°	180°	225°	270°	315°	360°
Exact Value (y)									
Decimal (y)	0	.7	1	.7	0	−.7	−1	−.7	0

y: 6 ratio
y: x axis
y: 4 blocks = 1 unit
x: 6 blocks = $\frac{\pi}{2}$



increasing: $(0, \frac{\pi}{2})$ $(\frac{3\pi}{2}, 2\pi)$

decreasing: $(\frac{\pi}{2}, \frac{3\pi}{2})$

minimum: -1 (at $x = \frac{3\pi}{2}$)

maximum: 1 (at $x = \frac{\pi}{2}$)

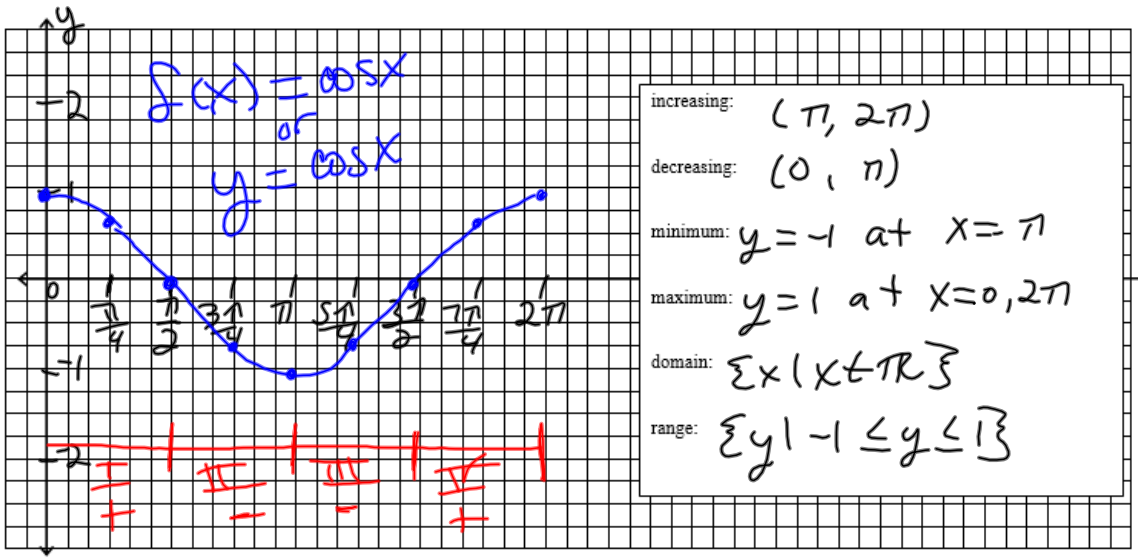
domain: $(-\infty, \infty)$

range: $[-1, 1]$

Feb 6-6:23 PM

f(x) = cos(x)

Radians	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π	$\frac{5\pi}{4}$	$\frac{3\pi}{2}$	$\frac{7\pi}{4}$	2π
Degrees	0°	45°	90°	135°	180°	225°	270°	315°	360°
Exact Value	1	$\sqrt{2}/2$	0	$-\sqrt{2}/2$	-1	$-\sqrt{2}/2$	0	$\sqrt{2}/2$	1
Decimal	1	.7	0	-.7	-1	-.7	0	.7	1



increasing: $(\pi, 2\pi)$

decreasing: $(0, \pi)$

minimum: $y = -1$ at $x = \pi$

maximum: $y = 1$ at $x = 0, 2\pi$

domain: $\{x \mid x \in \mathbb{R}\}$

range: $\{y \mid -1 \le y \le 1\}$

Feb 6-6:23 PM

f(x) = tan (x)

Radians	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π	$\frac{5\pi}{4}$	$\frac{3\pi}{2}$	$\frac{7\pi}{4}$	2π
Degrees	0°	45°	90°	135°	180°	225°	270°	315°	360°
Exact Value	0	1	und	-1	0	1	und	-1	0
Decimal	0	1	und	-1	0	1	und	-1	0

Radians	0	$-\frac{\pi}{4}$	$-\frac{\pi}{2}$	$-\frac{3\pi}{4}$	$-\pi$	$-\frac{5\pi}{4}$	$-\frac{3\pi}{2}$	$-\frac{7\pi}{4}$	-2π
Degrees	0°	-45°	-90°	-135°	-180°	-225°	-270°	-315°	-360°
Exact Value	0	-1	und	+1	0	-1	und	+1	0
Decimal	0	-1	und	+1	0	-1	und	+1	0

increasing:

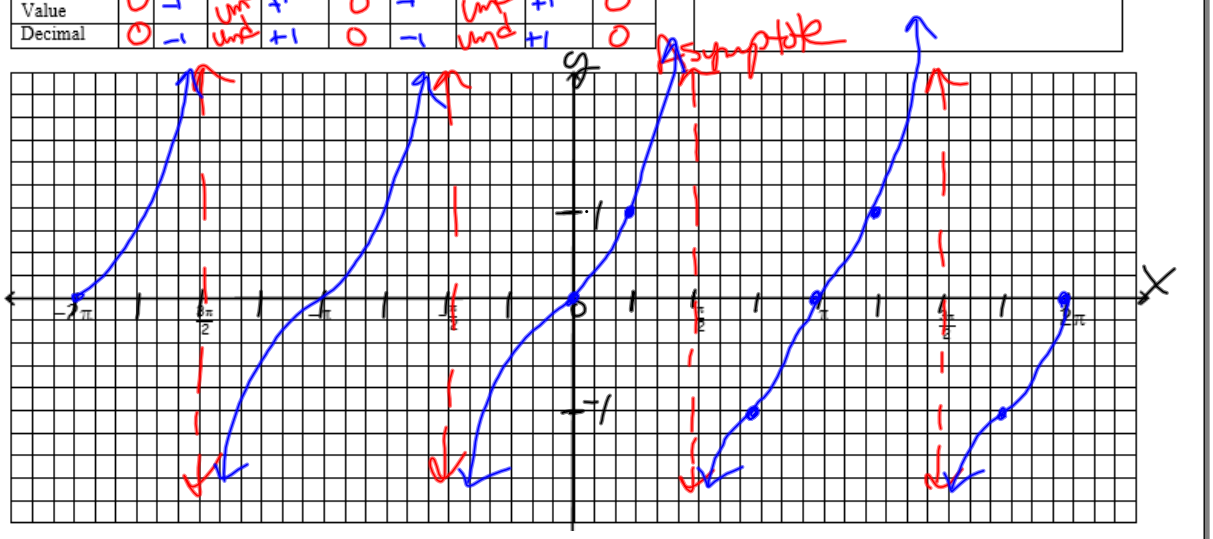
decreasing:

minimum:

maximum:

domain:

range:



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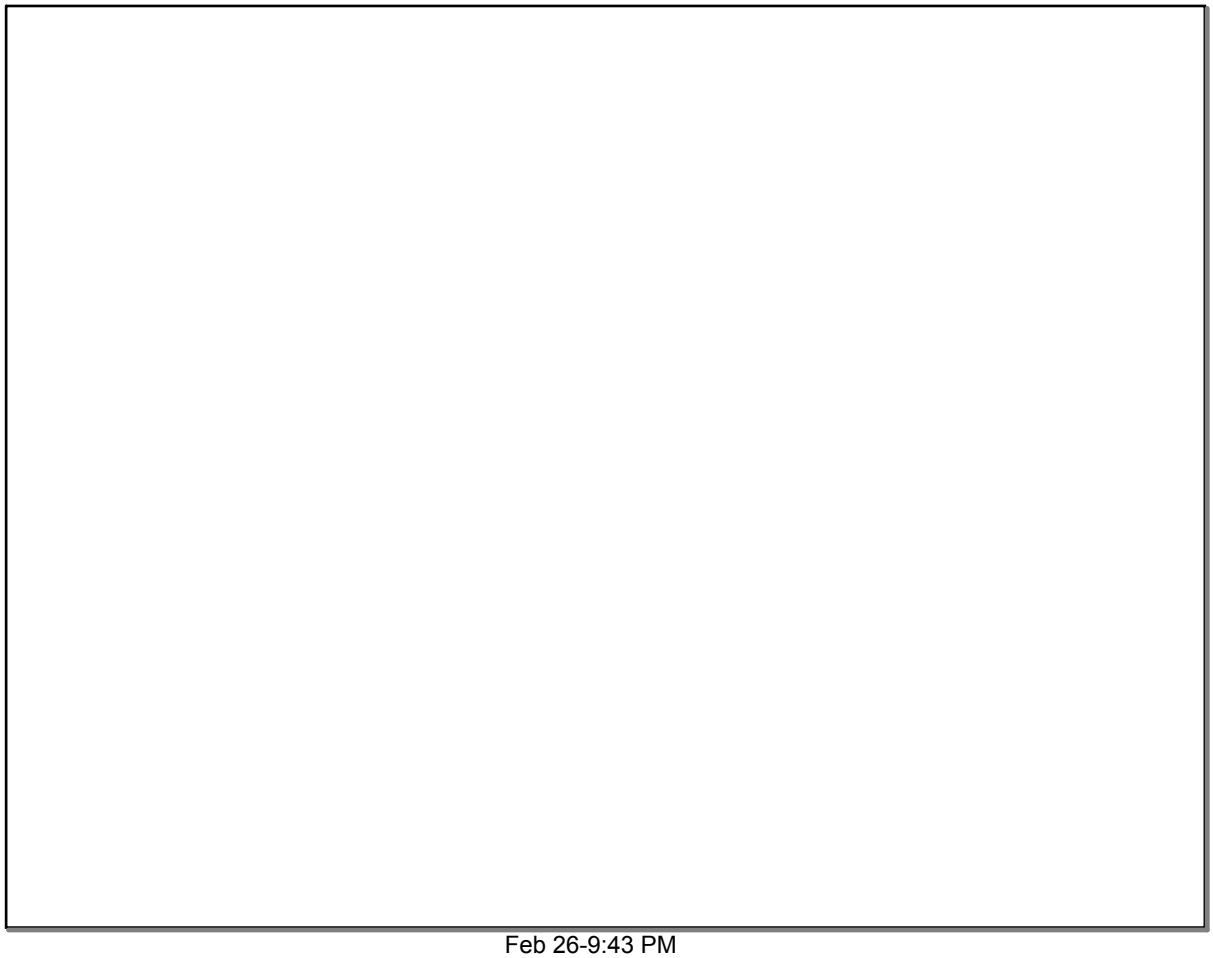

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