Graphing Sine & Cosine (5.1) *p233* *day 1*

Sunspots & CME

cycles within cycles

11 year cycle	Schwabe
88 year cycle	Gleissberg
200 year cycle	Suess-DeVries
2400 year cycle	Hallstatt

July 2012 CME missed us by 1 week

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7. Solve for θ in the specified domain. Give solutions as exact values where possible. Otherwise, give approximate measures to the nearest thousandth.

p233 *day 1* *3d, 5df, 7b, 17*

a) $2\cos^2\theta - 3\cos\theta + 1 = 0$, $0 \le \theta < 2\pi$
b) $\tan^2\theta - \tan\theta - 2 = 0$, $0° \le \theta < 360°$
c) $\sin^2\theta - \sin\theta = 0$, $\theta \in [0, 2\pi)$
d) $\sec^2\theta - 2\sec\theta - 3 = 0$, $\theta \in [-180°, 180°]$

5. Solve ea domain.
a) 3 cos
b) √3 ta
c) √2 si
d) 3 sin −360

17. Identify tw trigonomet solution. G each case.

3. Determine th each trigonor statement in
a) 2 cos θ −
b) csc θ is u
c) 5 − tan² θ
d) sec θ + √

$(\tan\theta - 2)(\tan\theta + 1) = 0$

$\tan\theta = 2$ $\tan\theta = -1$
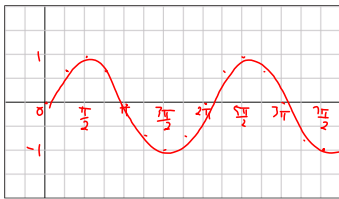$\theta = 63°$ $\theta = 135°, 315°$
$243°$

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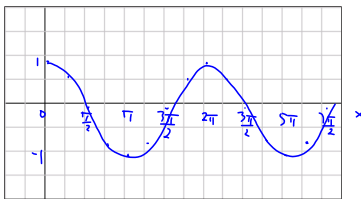
Take Sine & Cosine Functions sheet
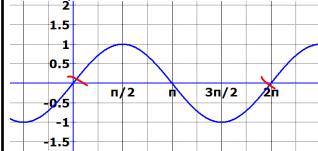Draw graphs of y=sin(x) and y=cos(x)

$y = \sin(x)$

$y = \cos(x)$

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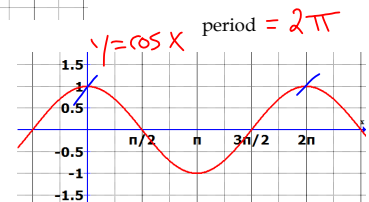
let's familiarize ourselves with the graphs...

$y = \sin x$

amplitude $= 1$ mid to top

period $= 2\pi$

max $= 1$

min $= -1$

$y = \cos x$

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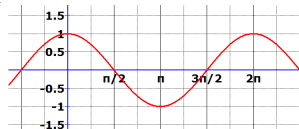
The amplitude is like the height of a periodic function.

The formula for amplitude is $\dfrac{max - min}{2}$

For y=sin(x) and y=cos(x) the amplitude is 1.

The period of a periodic function is the time it takes for the function to repeat itself.

For y=sin(x) and y=cos(x) the period is 2π.

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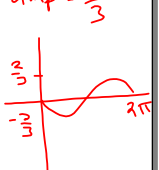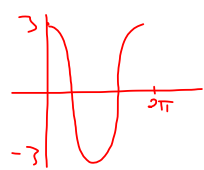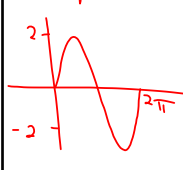ex1: Sketch and state the amplitude for:

a) $y = 2\sin x$ amp = 2

b) $y = 3\cos x$ amp = 3

c) $y = -\dfrac{2}{3}\sin x$ amp = $\dfrac{2}{3}$

for the graph y=a sin x, the amplitude is $|a|$.

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ex2: Sketch and state the period for:

a) $y = \sin(2x)$ b) $y = \cos 3x$ c) $y = \sin\left(\frac{2}{3}x\right)$

h comp 2

per = π

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

per = 3π

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

for y=sin bx, the period is $\frac{2\pi}{b}$

5, 6

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HW: p233#6, 9, 10, 11ab, 15