C12 - 4.1 - Degree/Radian Conversion HW

Degrees to Radians: **Radians to Degrees:**

$\frac{180^o}{\pi} = \frac{\pi}{180^o}$ $\times \frac{\pi}{180^o}$ $\times \frac{180^0}{\pi}$

π *and* 180^o *are the same thing, just in different units*

Find θ *in radians*

40^0 60^0 100^0

135^0 10^0 0^0

29^0 420^0 330^0

Find θ *in degrees*

$\frac{\pi}{6}_{rad}$ $\frac{\pi}{12}_{rad}$ $\frac{5\pi}{3}_{rad}$

$\frac{3\pi}{5}_{rad}$ $\frac{2\pi}{5}_{rad}$ $\frac{2\pi}{7}_{rad}$

3.14_{rad} 5.12_{rad} 7_{rad}

2 10 1

C12 - 4.1 - Fill in blanks degrees/radians WS

Simplify Fraction below!

__15^0___,	__30^0___,	___45^0__,	_____,	_____,	_____,	_____,	_____,
—$\frac{\pi}{12}$—,	—$\frac{2\pi}{12}$—,	—$\frac{3\pi}{12}$—,	_____,	_____,	_____,	_____,	_____,
Simplify _____,	_____,	_____	_____,	_____,	_____,	_____,	_____
__30^0___,	__60^0___,	___90^0__,	_____,	_____,	_____,	_____,	_____,
—$\frac{2\pi}{12}$—,	—$\frac{4\pi}{12}$—,	—$\frac{6\pi}{12}$—,	_____,	_____,	_____,	_____,	_____,
_____,	_____,	_____	_____,	_____,	_____,	_____,	_____
__45^0___,	__90^0___,	___135^0__,	_____,	_____,	_____,	_____,	_____,
—$\frac{3\pi}{12}$—,	—$\frac{6\pi}{12}$—,	—$\frac{9\pi}{12}$—,	_____,	_____,	_____,	_____,	_____,
_____,	_____,	_____	_____,	_____,	_____,	_____,	_____
__60^0___,	__120^0___,	___180^0__,	_____,	_____,	_____,	_____,	_____,
—$\frac{4\pi}{12}$—,	—$\frac{8\pi}{12}$—,	—$\frac{12\pi}{12}$—,	_____,	_____,	_____,	_____,	_____,
_____,	_____,	_____	_____,	_____,	_____,	_____,	_____
__90^0___,	__180^0___,	___270^0__,	_____,	_____,	_____,	_____,	_____,
—$\frac{\pi}{2}$—,	—$\frac{2\pi}{2}$—,	—$\frac{3\pi}{2}$—,	_____,	_____,	_____,	_____,	_____,
_____,	_____,	_____,	_____,	_____,	_____,	_____,	_____,
__180^0___,	__360^0___,	___540^0__,	_____,	_____,	_____,	_____,	_____,
__π__,	__2π__,	__3π__,	_____,	_____,	_____,	_____,	_____,
__360^0___,	__720^0___,	___1080^0__,	_____,	_____,	_____,	_____,	_____,
__2π__,	__4π__,	__6π__,	_____,	_____,	_____,	_____,	_____,

C12 - 4.2 - Arc Length, Central Angle HW

Don't forget to draw and label the circle!

What is the arc length of a circle with:

A radius of 1 and an angle of 45^0?

A radius of 5 and an angle of 60^0?

A radius of 4 and an angle of 180^0?

What is the arc length of a circle with:

A radius of 1 and an angle of $\frac{\pi}{4}$?

A radius of 5 and an angle of π?

A radius of 4 and an angle of $\frac{3\pi}{2}$?

What is the central in radians angle with:

A radius of 1 and an arc length of 1?

A radius of 3 and an arc length of 2?

A radius of 5 and an arc length of 12?

C12 - 4.2 - Radius, Sector Area HW

Don't forget to draw and label the circle!

What is the radius of the circle with:

An arc length of 3 and a central angle of $\frac{\pi}{3}$?

An arc length of 3 and a central angle of $\frac{\pi}{3}$?

An arc length of 3 and a central angle of $\frac{\pi}{3}$?

What is the sector area of the circle with:

A radius of 1 and an arc length of 1?

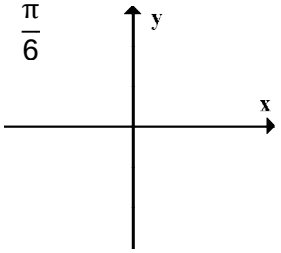
A radius of 3 and an arc length of 2?

A radius of 5 and an arc length of 12?

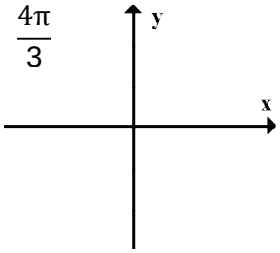
C12 - 4.3 - *Sketch, Find θ_r, θ_{stp} HW*

Sketch θ_{stp}.

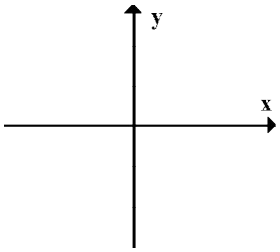
$\frac{\pi}{6}$



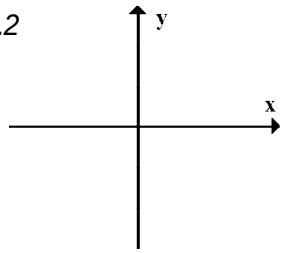
$\frac{4\pi}{3}$



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

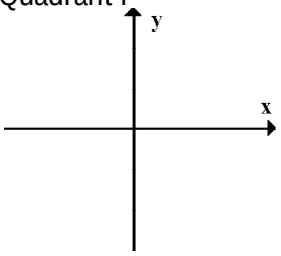


2.2

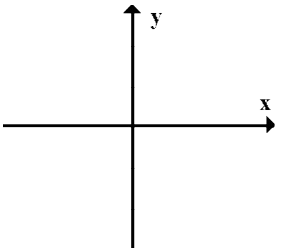


Sketch θ_r

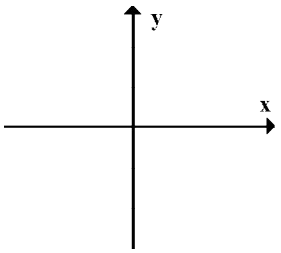
$\frac{\pi}{4}$ In Quadrant I



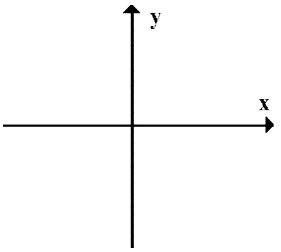
$\frac{\pi}{3}$ In Quadrant II



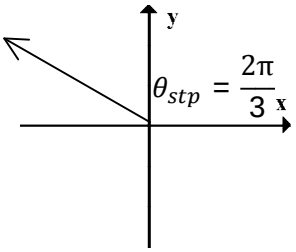
1.2 In Quadrant III

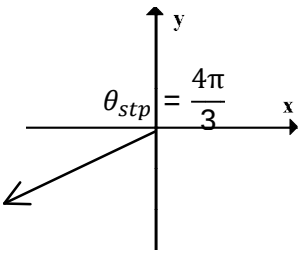


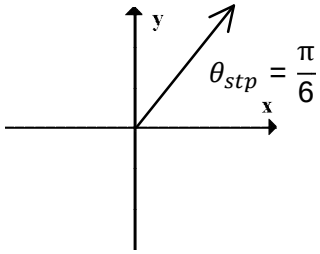
$\frac{\pi}{7}$ In Quadrant IV

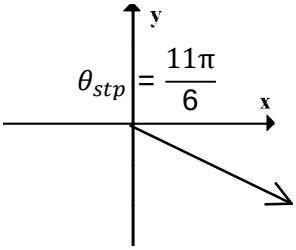


Find θ_r for each θ_{stp}

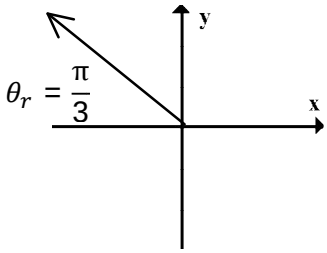


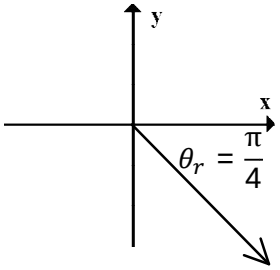


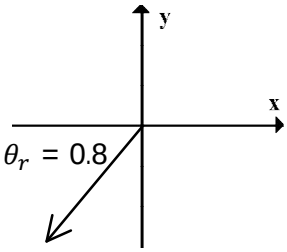


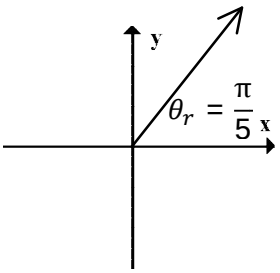


Find θ_{stp} for each θ_r





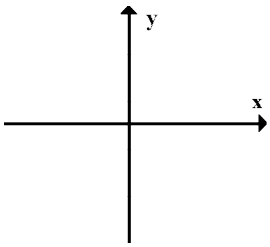




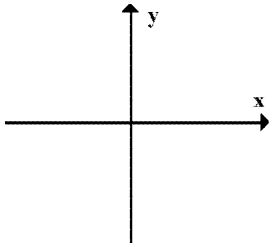
C12 - 4.3 - ASTC + / –

Draw 2 triangles in the quadrants for the following statements

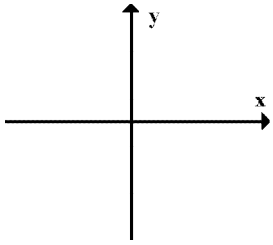
$\cos\theta > 0$



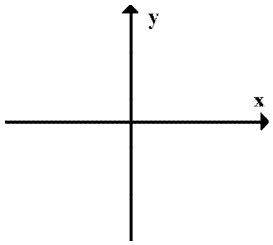
$\tan\theta > 0$



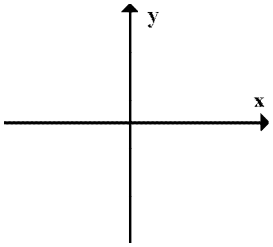
$\sin\theta > 0$



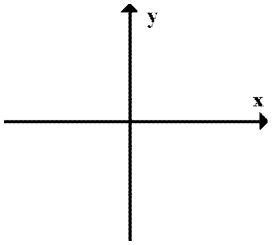
$\cos\theta < 0$



$\tan\theta < 0$

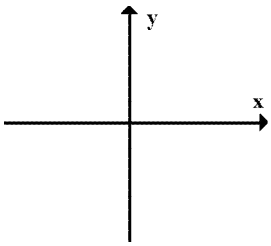


$\sin\theta < 0$

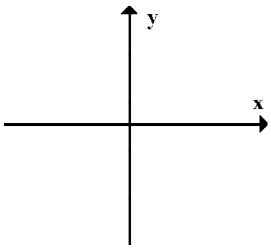


Draw a triangle in the quadrant for following statements

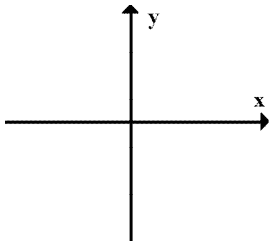
$\cos\theta > 0$ *and* $\sin\theta < 0$



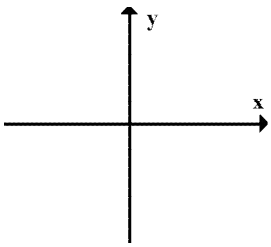
$\cos\theta < 0$ *and* $\tan\theta > 0$



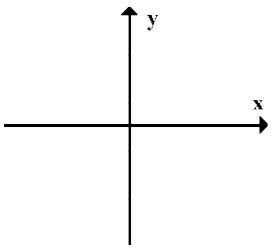
$tan\theta > 0$ *and* $\sin\theta > 0$



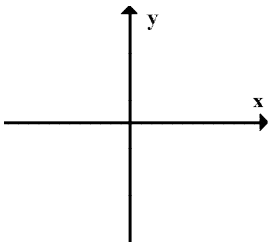
$\cos\theta < 0$ *and* $\sin\theta < 0$



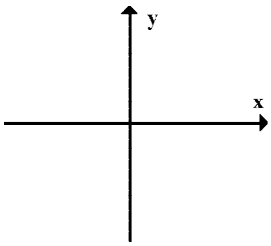
$\cos\theta < 0$ *and* $\tan\theta < 0$



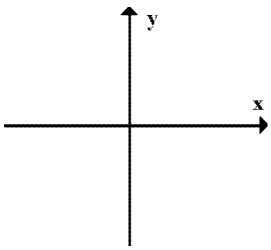
$tan\theta < 0$ *and* $\sin\theta > 0$



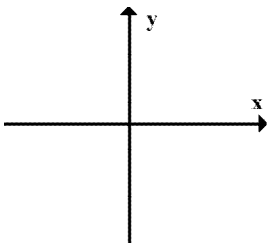
$\cos\theta < 0$ *and* $\sin\theta > 0$



$\cos\theta > 0$ *and* $\tan\theta < 0$



$tan\theta < 0$ *and* $\sin\theta < 0$

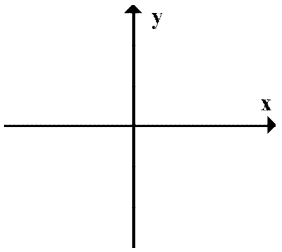


C12 - 4.3 - ASTC Trig Ratios HW

SOH CAH TOA

Find $sinx, cox,$ and $tanx$ for the following points. And Find the Reference Angle and Angle in Standard Position in radians.

(4,3)



$sinx$ =

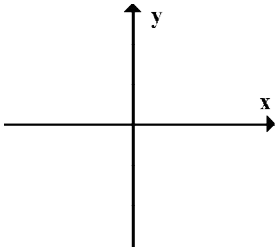
$cosx$ =

$tanx$ =

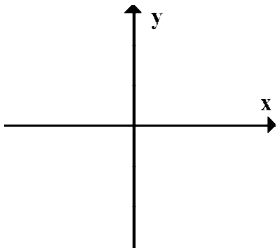
θ_r =

θ_{stp} =

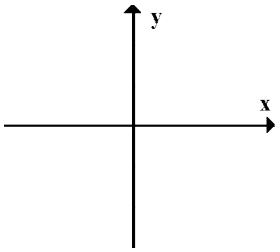
(−3,4)



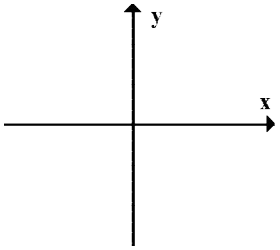
(−3, −4)



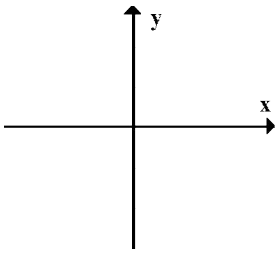
(−5,12)

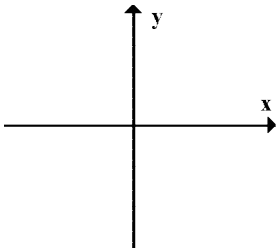


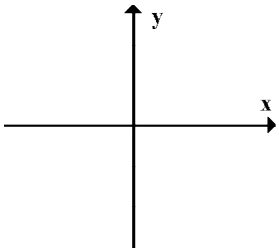
(2,3)



(5, −6)



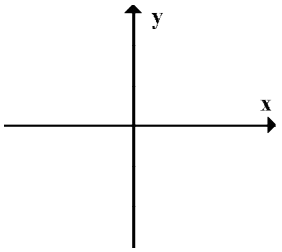




C12 - 4.34 - ASTC Unit Circle HW

Find sinx, cox, and tanx for the following points and θ stp.

(0,1)



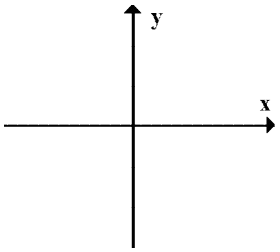
$sinx$ =

$cosx$ =

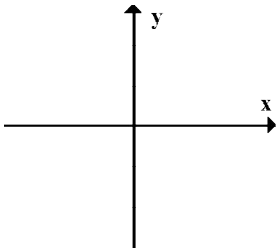
$tanx$ =

θ_{stp} =

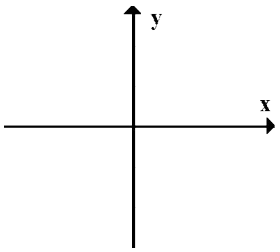
(−1,0)



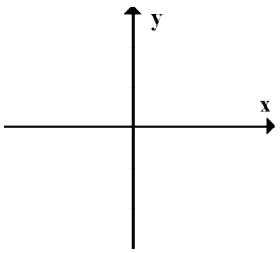
(0, −1)



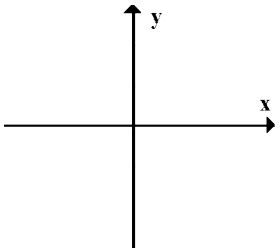
(1,0)



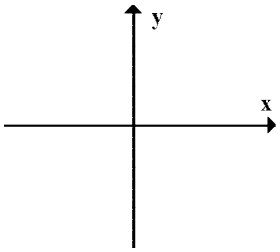
(0,3)



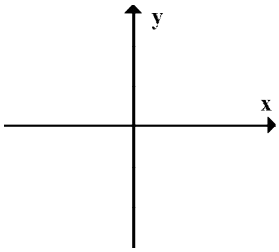
(−5,0)



(0, −99)



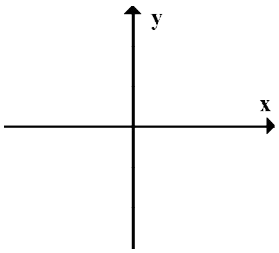
(2,0)



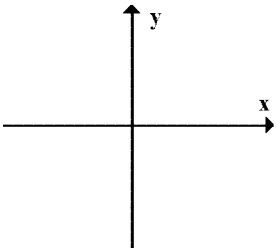
C12 - 4.3 - Special Trig Equations HW

Solve for $x, 0 \leq x < 2\pi$, *answer should say* $x =$

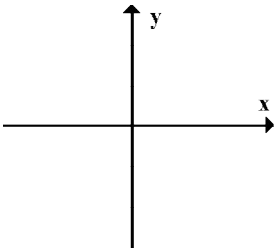
$sinx = \frac{1}{2}$



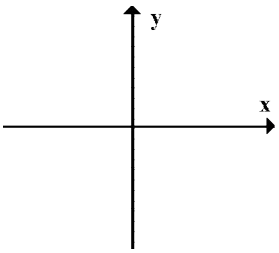
$cosx = \frac{1}{\sqrt{2}}$



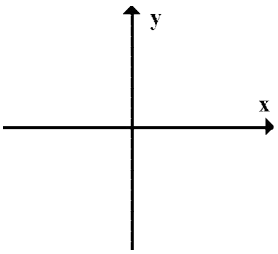
$cosx = \frac{1}{2}$



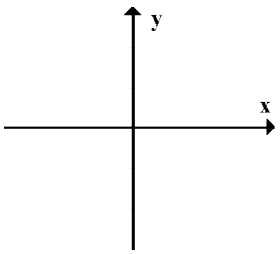
$tanx = 1$



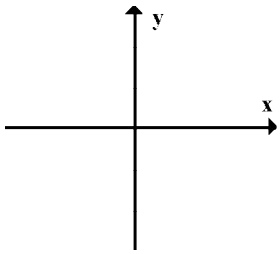
$sinx = \frac{1}{\sqrt{2}}$



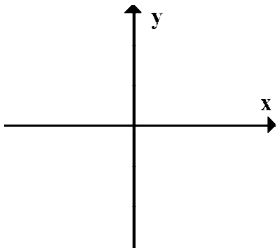
$sinx = \frac{\sqrt{3}}{2}$



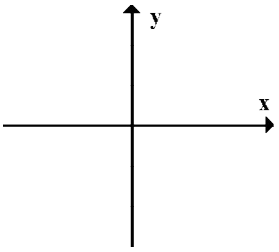
$cosx = \frac{\sqrt{3}}{2}$



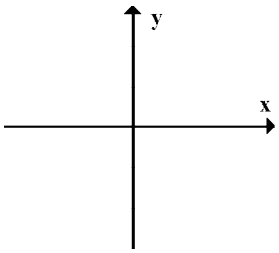
$tanx = \frac{1}{\sqrt{3}}$



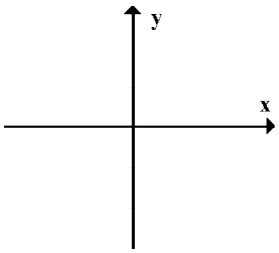
$tanx = \sqrt{3}$



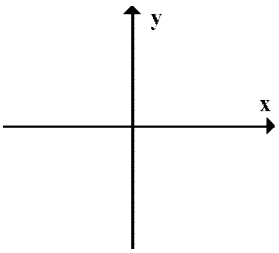
$sinx = -\frac{1}{2}$



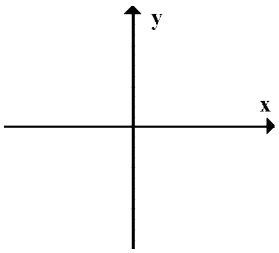
$cosx = -\frac{1}{\sqrt{2}}$



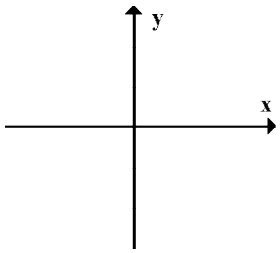
$cosx = -\frac{1}{2}$



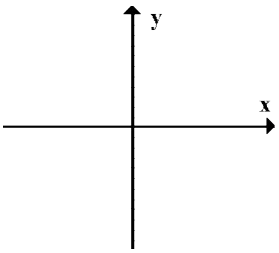
$tanx = -1$



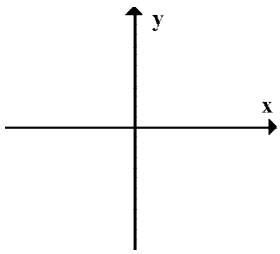
$sinx = -\frac{1}{\sqrt{2}}$



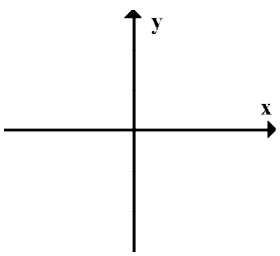
$sinx = -\frac{\sqrt{3}}{2}$



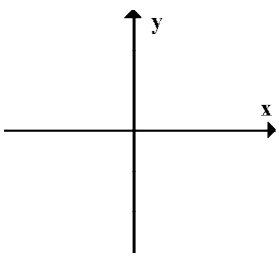
$cosx = -\frac{\sqrt{3}}{2}$



$tanx = -\frac{1}{\sqrt{3}}$



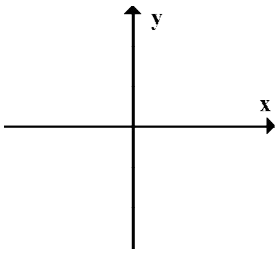
$tanx = -\sqrt{3}$



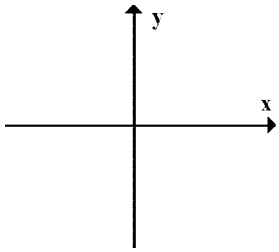
C12 - 4.3 - Decimal Trig Equations HW

Solve for $x, 0 \leq x < 2\pi$, *answer should say* $x =$

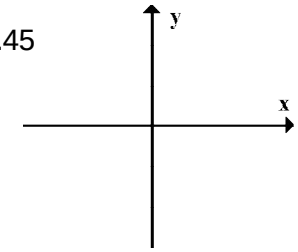
$sinx = 0.6$



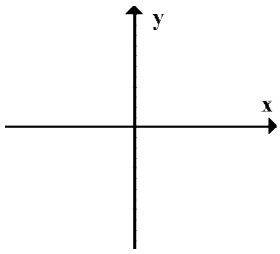
$cosx = \frac{1}{4}$



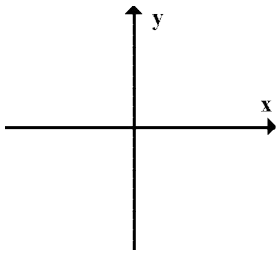
$cosx = 0.45$



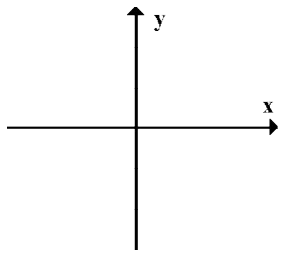
$tanx = \frac{4}{5}$



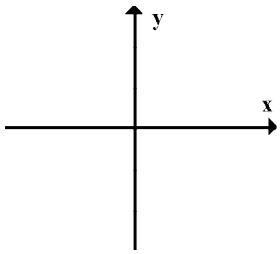
$sinx = 0.4$



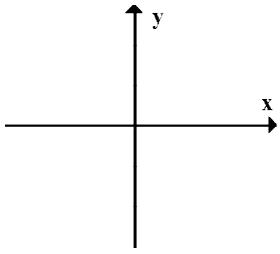
$sinx = \frac{1}{3}$



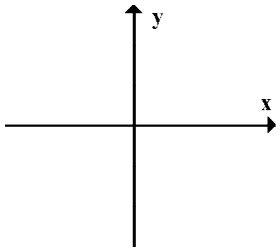
$cosx = 0.75$



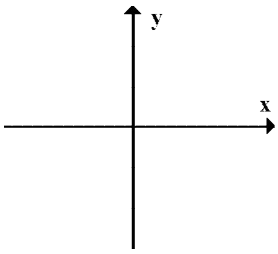
$tanx = \frac{1}{5}$



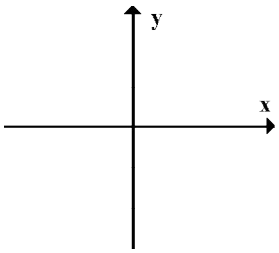
$tanx = 0.35$



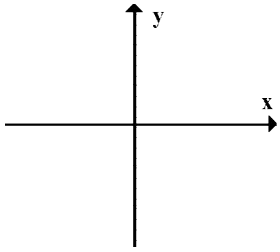
$sinx = -0.1$



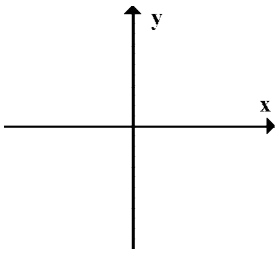
$cosx = -\frac{1}{5}$



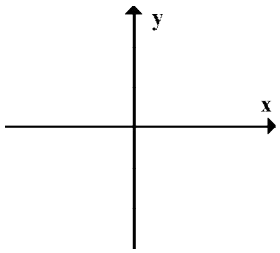
$cosx = -0.65$



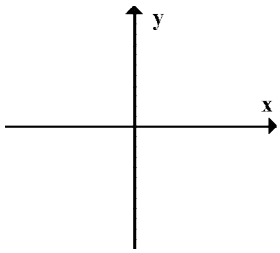
$tanx = -2$



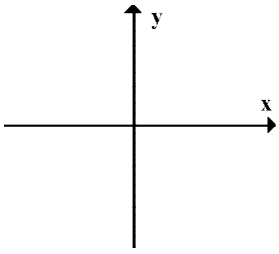
$sinx = -0.8$



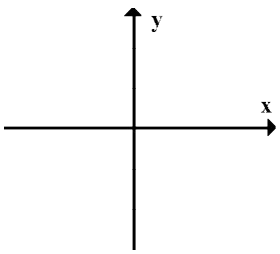
$sinx = -\frac{2}{3}$



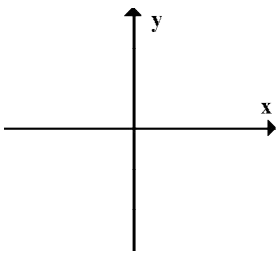
$cosx = -0.5$



$tanx = -0.866$



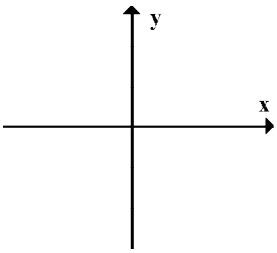
$tanx = -0.707$



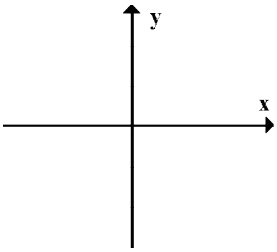
C12 - 4.3 - Algebra Special Trig Equations HW

$Solve\ for\ x, 0 \leq x < 2\pi$

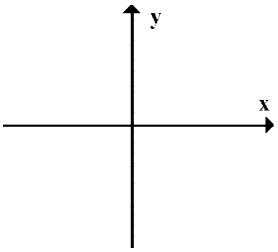
$2sinx = 1$



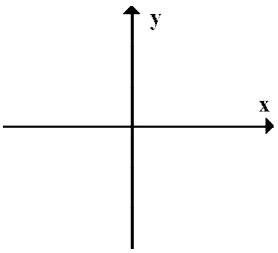
$\sqrt{2}cosx = 1$



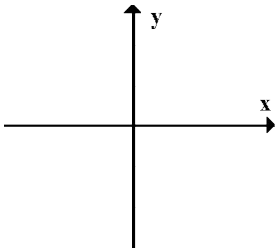
$-2sinx = \sqrt{3}$



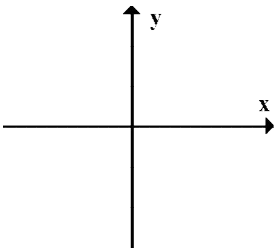
$2tanx = 2$



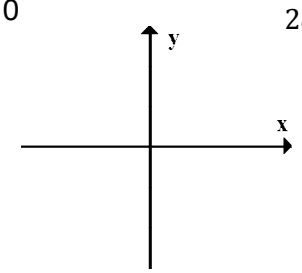
$2cosx = -\sqrt{3}$



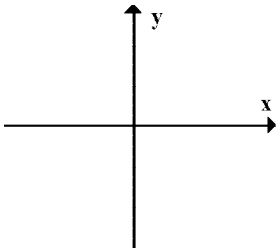
$2sinx = -\sqrt{3}$



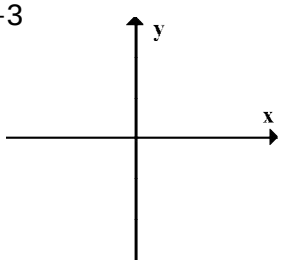
$-\sqrt{2}sinx - 1 = 0$



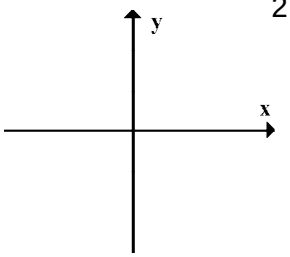
$2cosx + 1 = 0$



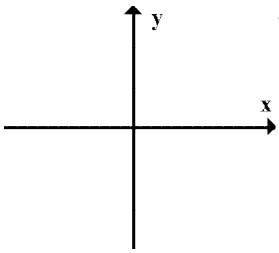
$tanx - 2 = -3$



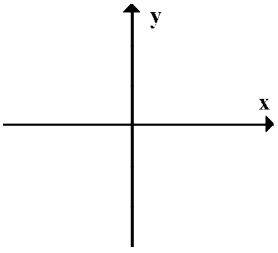
$\sin^2 x = \frac{1}{4}$



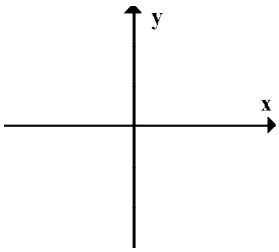
$2\cos^2 x = 1$



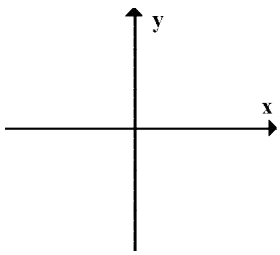
$\tan^2 x = 1$



$4\cos^2 x - 1 = 0$



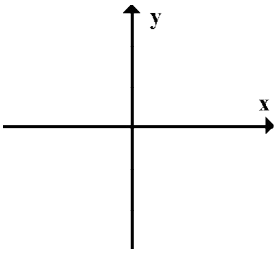
$2\sin^2 x + 1 = 0$



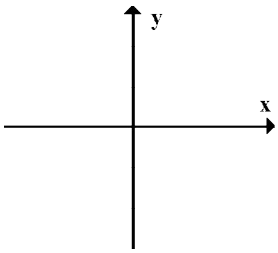
C12 - 4.4 - Unit Circle Trig Equations HW

$Solve\ for\ \theta, 0 \leq \theta < 2\pi$

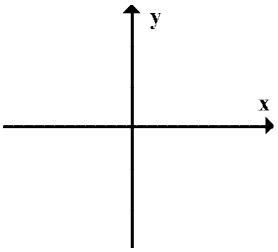
$sin\theta = 1$



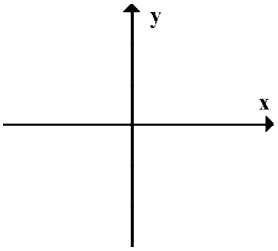
$cos\theta = 0$



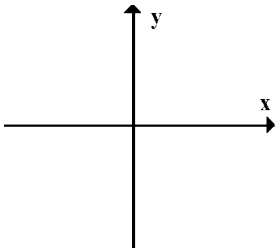
$cos\theta = -1$



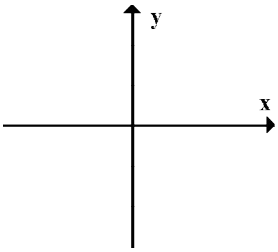
$sin\theta = -1$



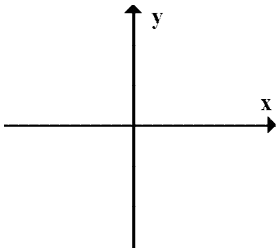
$tan\theta = und$



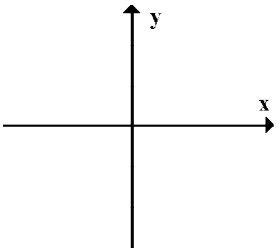
$sin\theta = 0$



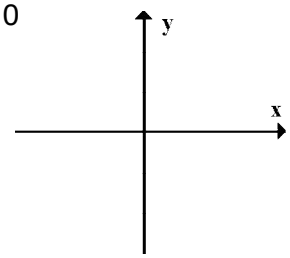
$cos\theta = 1$



$tan\theta = 0$



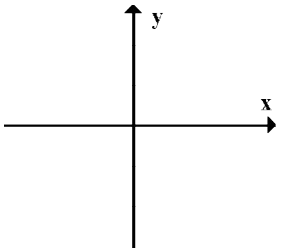
$\sin^2\theta - 1 = 0$

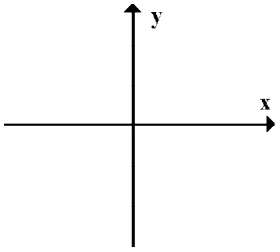


C12 - 4.4 - Factoring Trig Equations HW

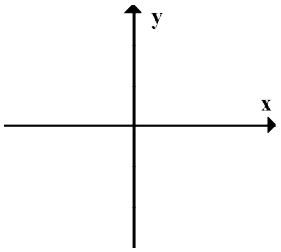
Solve for $x, 0 \leq x < 2\pi$, *by factoring, then setting factors equal to zero and solve.*

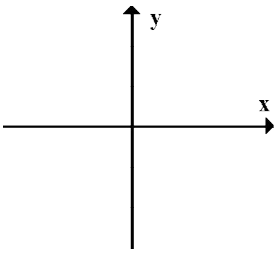
$\sin^2 x - \sin x = 0$



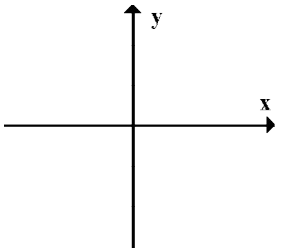


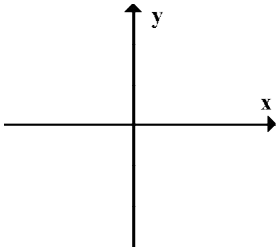
$\cos^2 x + \cos x = 0$



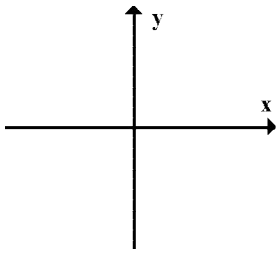


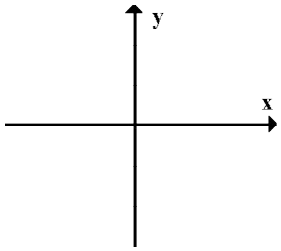
$\sin^2 x + \sin x - 2 = 0$



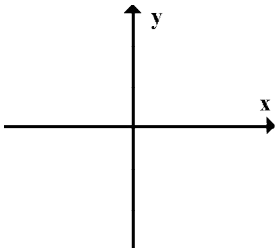


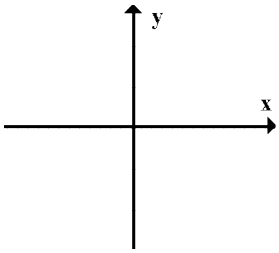
$\cos^2 x - \cos x - 2$





$2\sin^2 x + \sin x - 1$





$2\cos^2 x - \cos x - 1$