

# Precalculus A

## 5.1 Fundamental Identities

Day 5

Hw: Worksheet #6

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D. Paulson

Find all solutions to the equation in the interval  $[0^\circ, 360^\circ)$ .  
You do not need a calculator.

### 5.1 Assignment #6

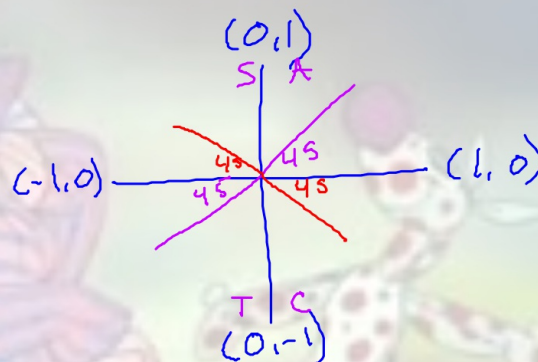
4.  $\sin x \tan^2 x = \sin x$   
 ~~$-\sin x - \sin x$~~

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

$$\sin x (\tan^2 x - 1) = 0$$

$$\sin x (\tan x - 1)(\tan x + 1) = 0$$

$\sin x = 0$	$\tan x + 1 = 0$ $+1 +1$	$\tan x - 1 = 0$ $-1 -1$
	$\tan x = -1$	$\tan x = 1$



$0^\circ, 180^\circ, 45^\circ, 225^\circ$   
 $135^\circ, 315^\circ$

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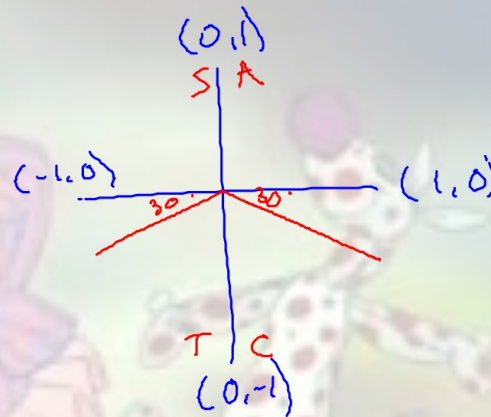
Find all solutions to the equation in the interval  $[0^\circ, 360^\circ)$ .  
You do not need a calculator.

5.1 Assignment #6

8.  $2\sin^2 x + 3\sin x + 1 = 0$

Think:  $2x^2 + 3x + 1$   
 $(2x^2 + 2x + 1x + 1)$   
 $2x(x+1) + 1(x+1)$   
 $(2x+1)(x+1)$

$(2\sin x + 1)(\sin x + 1) = 0$   
 $2\sin x + 1 = 0$      $\sin x + 1 = 0$   
 $\frac{2\sin x}{2} = \frac{-1}{2}$      $\frac{\sin x}{1} = \frac{-1}{1}$   
 $\sin x = -\frac{1}{2}$      $\sin x = -1$



$210^\circ, 330^\circ, 270^\circ$

D. Paulson

Find all solutions to the equation in the interval  $[0^\circ, 360^\circ)$ .  
You do not need a calculator.

5.1 Assignment #6

10:  $3\sin x = 2\cos^2 x$

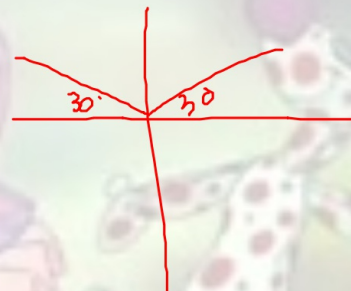
$3\sin x = 2(1 - \sin^2 x)$

$(2\sin x - 1)(\sin x + 2) = 0$

$2\sin x - 1 = 0$      $\sin x + 2 = 0$   
 $\frac{2\sin x}{2} = \frac{1}{2}$      $\frac{\sin x}{1} = \frac{-2}{1}$   
 $\sin x = \frac{1}{2}$      $\sin x = -2$

$30^\circ, 150^\circ$

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