## Pre-Calculus 11

**2.4 – The Cosine Law**

Review:

#### When radius = 1

θ

y

x

1

x = cos θ and y = sin θ

Test: a) cos2 30° + sin2 30°

b) cos2 68° + sin2 68°

c) cos2 45° + sin2 45°

What can you generalize for cos2 A + sin2 A ? Why?

The Cosine Law relates the sides to one of the opposite angles in **any triangle.**

C

B

b

c

a



#### 

When do we use the cosine law?



Ex 1: Find side a



C

B

41°

5

6

a



A



C

Ex 2: Find side c



4

3

70°



A



c



B

Ex 4: Calculate ∠A and ∠C.



4

3

5

C

B

A



Note: When solving triangles



SAS 🡪 Cosine Law



SSS 🡪 Cosine Law



ASS 🡪 Sine Law\*



2 angles, one side 🡪 Sine Law



Ex 5: Solve for all sides and angles



24°

63°

5

C

B

A



**\* Homework: Pg. 119 # 1 – 2 (a, c), 3, 4a, 5, 6, 10**