

Formulas for the test:**These will be given to you:**

$$\cos(\alpha + \beta) = \cos(\alpha)\cos(\beta) - \sin(\alpha)\sin(\beta)$$

$$\cos(\alpha - \beta) = \cos(\alpha)\cos(\beta) + \sin(\alpha)\sin(\beta)$$

$$\sin(\alpha + \beta) = \sin(\alpha)\cos(\beta) + \cos(\alpha)\sin(\beta)$$

$$\sin(\alpha - \beta) = \sin(\alpha)\cos(\beta) - \cos(\alpha)\sin(\beta)$$

$$\tan(\alpha + \beta) = \frac{\tan(\alpha) + \tan(\beta)}{1 - \tan(\alpha)\tan(\beta)}$$

$$\tan(\alpha - \beta) = \frac{\tan(\alpha) - \tan(\beta)}{1 + \tan(\alpha)\tan(\beta)}$$

$$\cos(u/2) = \pm \sqrt{\frac{1 + \cos u}{2}}$$

$$\sin(u/2) = \pm \sqrt{\frac{1 - \cos u}{2}}$$

$$\tan(u/2) = \frac{1 - \cos u}{\sin u} = \frac{\sin u}{1 + \cos u}$$

The formulas you should know (and memorize):

how to find the values of all the trig functions from the unit circle or a right triangle,

the special angles that have known trig values

the basic Pythagorean identities

the periodicity of the trig functions

even and odd symmetry

the co-function formulas

the the double angle formulas

the ranges of all of the inverse trig functions

laws of sine and cosine in a triangle