

VALENCIA COMMUNITY COLLEGE

College Trigonometry

Name:

Review for Test 3

Date:

***** Show all your work for full credit *****

1) Use appropriate identities to find exact values for each of the following:

a) $\cos 75^\circ$ b) $\tan 15^\circ$ c) $\cos 15^\circ - \cos 105^\circ$ d) $\cos 15^\circ \sin 75^\circ$

e) $\cos 22.5^\circ$

2) Suppose $\cos 2x = -\frac{4}{5}$, $0^\circ < x < 90^\circ$, find the exact values of $\sin x$ and $\cos x$

4) Verify each identity

a) $\cos 2t = \frac{1 - \tan^2 t}{1 + \tan^2 t}$

b) $\csc 2x = \frac{1 + \tan^2 x}{2 \tan x}$

f) $\frac{\sin 2t + \sin 4t}{\cos 2t - \cos 4t} = \cot t$

5) Find $\sin(x-y)$ and $\tan(x+y)$ exactly without a calculator, using the information given and appropriate identities.

$\sin x = 2/3$, $\cos y = -1/4$, x is in second quadrant, and y is in third quadrant.

3) Find the exact real number values without using your calculator.

a) $\cos^{-1}\left(-\frac{1}{2}\right)$ b) $\tan^{-1}(-1)$ c) $\cos(\cos^{-1}\frac{1}{6})$

d) $\tan[\sin^{-1}(\frac{\sqrt{3}}{2}) + \sin^{-1}(\frac{1}{2})]$ e) $\cos[2 \tan^{-1}(\frac{2}{5})]$

2) Find the exact solutions over the indicated intervals

Some problems from Section 5.3