

Your TA: _____

Seat #: -

Math 105 TOPICS IN MATHEMATICS

MOCK QUIZ – XII

April 29 (Wed), 2015

Instructor: Yasuyuki Kachi

Line #: 52920.

ID #: _____

Name: _____

★ This is not an actual quiz. The actual “Quiz – XII” will be discreetly similar to this sheet. This sheet is to help you prepare for that quiz. The timing of the quiz will be either Friday, May 1st or Monday, May 4th.

[I] (8pts) Find the following special values:

(1) $\cos 0 =$ _____ .

(5) $\cos \frac{2\pi}{3} =$ _____ .

(2) $\sin \frac{\pi}{4} =$ _____ .

(6) $\cos \frac{5\pi}{6} =$ _____ .

(3) $\cos \frac{\pi}{3} =$ _____ .

(7) $\sin \pi =$ _____ .

(4) $\sin \frac{\pi}{2} =$ _____ .

(8) $\sin (2\pi) =$ _____ .

[II] (2pts) $(\cos x)^2 + (\sin x)^2 =$ _____ (a concrete number).

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[III] (4pts) Complete the formulas:

(1) $\sin(x + y) =$ _____
(in terms of $\sin x, \cos x, \sin y$ and $\cos y$).

(2) $\cos(x + y) =$ _____
(in terms of $\sin x, \cos x, \sin y$ and $\cos y$).

[IV] (4pts)

(1) $\int \cos x \, dx =$ _____, (2) $\int \sin x \, dx =$ _____.

[V] (4pts)

$$\cos x = 1 - \frac{1}{\boxed{}}x^2 + \frac{1}{\boxed{}}x^4 - \frac{1}{\boxed{}}x^6 + \frac{1}{\boxed{}}x^8 - \dots,$$

$$\sin x = \frac{1}{\boxed{}}x - \frac{1}{\boxed{}}x^3 + \frac{1}{\boxed{}}x^5 - \frac{1}{\boxed{}}x^7 + \dots.$$