

Review for Test 3, Thursday, April 24, 2003
The test will cover the sections below

7.6 Polar Coordinates

Convert from polar coordinates to Cartesian (rectangular) coordinates or vice versa.
See e-grade assignment # 2, quizzes, and p 324 Example 1

8.1 Composition of Functions

If given $f(x)$ and $g(x)$, find and simplify the composition $f(g(x))$
If given $f(x)$ and composition $h(x) = f(g(x))$, decompose h by finding g .
See e-grade assignment #3, quizzes, and p 332 Example 2 and 333 Example 5.
Also p. 336 # 10-25, 33-57 odd

8.2 Inverse Functions

Determine if a function is one-to-one using the horizontal line test.
If given $f(x)$, find $f^{-1}(x)$
See e-grade assignment # 2, quizzes, hw

10.1 Vectors

If given the sketch of two vectors, sketch their sum, difference, etc. as in p 422 #5.
Write a displacement vector and find magnitude as in p. 423 #11.
See Quiz 6

10.2 The Components of a Vector

Find the magnitude and direction of a vector. (This is converting Cartesian to polar) See #8-13
Write a vector in component form See #7, 17
Perform vector arithmetic See #1 & 2

10.3 Applications of Vectors

Use vectors to solve applied problems. See #5 and Quiz 6.

10.4 The Dot Product

Find the dot product of two vectors. Find the angle between two vectors.
Find the component c if $(1, 2, c)$ and $(3, 4, 5)$ are perpendicular.
See Quiz 7 and e-grade assignments

11.1 Using Sums

Determine if a sequence/series is arithmetic by looking for the common difference. Find the sum.
Solve applied problems and use sigma notation.
See Quiz 7

11.2 Geometric Series

Determine if a sequence/series is geometric by looking for the common ratio.
Solve applied problems and use sigma notation.
Determine the long run behavior of the effect of taking a therapeutic drug. See #33.

11.3 Parametric Equations

Eliminate the parameter to write a parametric curve without t .
See Quiz 9.

11.4 Conics

Write circles, ellipses, and hyperbolas in implicit form.
Write circles and ellipses in parametric form.
See Quiz 9.

Sketch conics and find vertices, center, asymptotes, etc.,
where appropriate
Identify if a conic is an ellipse, circle, hyperbola, or
parabola (Name that conic)

11.5 Complex Numbers

Perform arithmetic with complex numbers. See #7-11. Also find i^{1003}