

# Math 51 - Test #3 Study Guide

Fall 2014, Prof. Beydler

## Test #3

- Date: Wednesday, November 19, 2014
- Will cover sections 6.4-6.6, 7.1-7.8, 8.1.
- You'll have the entire class to finish the test.
- No notes or books during the test. For this test, you can use a **scientific calculator**.
- Please visit my office hours if you need help. If you don't understand something, don't be embarrassed to stop by—I'm very patient. If you can't make it to my office hours, then feel free to e-mail me with any questions: [dbeydler@mtsac.edu](mailto:dbeydler@mtsac.edu) Also, don't forget to visit the MARC and get extra credit for doing so! (see syllabus for details)

Here are some (definitely not all!) of the basic formulas/equations you'll want to know:

- $A^2 + 2AB + B^2 = (A + B)^2$
- $A^2 - 2AB + B^2 = (A - B)^2$
- $A^2 - B^2 = (A + B)(A - B)$
- $A^3 + B^3 = (A + B)(A^2 - AB + B^2)$
- $A^3 - B^3 = (A - B)(A^2 + AB + B^2)$
- Pythagorean Theorem (for right triangles only):  $(leg)^2 + (leg)^2 = (hyp)^2$
- $d = rt$  (and the related  $t = \frac{d}{r}$  and  $r = \frac{d}{t}$ )
- $y$  varies directly as  $x$  means  $y = kx$  (for some constant  $k$ )
- $y$  varies directly as the  $n$ th power of  $x$  means  $y = kx^n$  (for some constant  $k$ )
- $y$  varies inversely as  $x$  means  $y = \frac{k}{x}$  (for some constant  $k$ )
- $y$  varies inversely as the  $n$ th power of  $x$  means  $y = \frac{k}{x^n}$  (for some constant  $k$ )
- Distance formula:  $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

## Extra Credit!

- If you write up the answers to all of the review exercises listed below, and hand them in at the test, you can earn up to 2% extra credit towards your test (depending on neatness and completeness)! These review exercises don't cover everything. Also, some of the exercises are tough, but hey, you've got to work for your extra credit! ☺
- Review exercises:
  - Chapter 6: p.413 #31-59 odd
  - Chapter 7: p.487 #3-49 odd, 52-54 all, 57
  - Chapter 8: p.547 #7-20 all