
FINAL REVIEW

To prepare for the test, you should study **all quizzes and tests**, as well as the **homework problems** listed below OR the similar examples done in class from the listed topics.

Important topics:

1) Finding volumes using cross sections (disks), cylindrical shells, washers.
(one or two questions)

- 6.1 Exercises 15 – 18, 22, 25, 29, 30, 31, 37, 38, 40, 42, 45, 46, 48, 49, 51, 52
- 6.2 Exercises 1 – 6, 7, 10, 23, 29, 30, 36, 39
- 8.1 Exercises 54, 55, 56
- 8.2 Exercise 71
- 8.3 Exercise 56
- 8.4 Exercises 55, 56
- 8.7 Exercises 69, 70
- Review Test 1 Exercises 1, 2, 3, 5

2) Finding integrals using integration by parts, substitution, trigonometric substitutions, expressing a rational function as partial fractions; Finding improper integrals.
(multiple question)

- 8.1 Exercises 11, 13, 14, 22, 25, 26, 27, 29, 35, 42, 45, 49
- 8.2 Exercises 7, 11, 13, 21, 23, 25, 27, 29, 33, 39, 38, 43, 44, 49, 51, 52, 57, 61, 63 – 38
- 8.3 Exercises 1, 3, 5, 9, 11, 15, 17, 19, 21, 23, 29, 31, 35, 41, 47
- 8.4 Exercises 9, 10, 11, 15, 17, 18, 21, 26, 27, 29, 33, 39, 41
- 8.7 Exercises 3, 9, 15, 21, 35, 38, 47, 48, 53
- Review Test 1 Exercises 9, 10, 11

3) Graphing in polar coordinates and finding areas in polar coordinates
(several questions)

- 11.4 Examples 1 – 3; Exercises 1 – 15 odd, 17 – 20, 21, 23, 25
- 11.5 Examples 1, 2; Exercises 1, 3, 5, 7, 9, 11, 13, 15, 17, 19a

4) Infinite series; alternating series; power series; Taylor and Maclaurin Series; Binomial series.
(several questions)

- 10.2 Exercises 27, 29, 35, 37, 38, 41, 42, 45, 47, 51, 55, 59, 65, 67, 69, 71, 73, 77
- 10.3 Exercises 3, 7, 11, 15, 27, 31
- 10.4 Exercises 1 – 53 odd
- 10.5 Exercises 1 – 43 odd
- 10.6 Exercises 1 – 41 odd
- 10.7 Exercises 3, 5, 7, 9, 11, 13, 15, 17, 19
- 10.8 Exercises 1, 7, 11, 13, 17, 27, 29, 33 – 36
- 10.9 Exercises 1, 3, 5, 11, 13, 23, 29, 31, 33
- 10.10 Exercises 1, 3, 5, 7, 9, 11, 13
- Handout 10.2 Exercises 10.2 (pages 4, 5) from 28 to 76
- Handout 10.3 – 10.5 All exercises
- Handout 10.7 All exercises
- Handout 10.8 – 10.9 Exercises 1, 3 – 9

5) Estimating infinite series

(one or two questions)

- 10.3 Exercises 49, 51
- 10.6 Exercises 49, 51, 53, 55
- 10.9 Exercises 35, 37
- 10.10 Exercises 15, 17, 19, 21, 23

6) Geometry in space

(several questions)

- 12.2 Exercises 1, 3, 5, 9, 11, 13, 17, 19, 21, 25, 27, 29, 33, 37, 39
- 12.3 Exercises 1, 3, 5, 7, 9, 11, 13, 41, 43
- 12.4 Exercises 1, 3, 5, 7, 15, 17, 19, 21, 29, 35, 37
- 12.5 Exercises 1, 3, 5, 7, 9, 13, 17, 21, 23, 25, 27, 29, 31, 33, 35, 39, 41, 45, 47, 53, 55, 57, 59

7) Applications (Work and pumping liquids from containers)

(one question)

- 6.5 Exercises 7, 8, 9, 13, 14, 15, 17, 19
- Handout 6.5 Exercises 1 – 6
- Review Test 1 Exercises 5, 6, 7, 8