

Math 111I Practicing Test 1

1. Simplify by removing all possible factors from each radical.

(a) $\sqrt{72x^3w^5}$

(b) $\sqrt{\frac{18y}{z^3}}$

2.

(a) Expand $(a + b)^2$

(b) Factor the expression $49x^2 + 28x + 4$ as the product of two binomials.

3.

(a) Simplify the multiplication

$$\frac{(x - 3)^2(x^2 + 1)^3}{(x - 1)^4(x + 2)^5} \cdot \frac{(x - 1)^2(x + 2)^2}{(x^2 + 1)^4(x - 3)^6}$$

(b) What is the domain of the above expression?

4.

(a) Complete the table and use the result solution points to sketch the graph of the equation.

$$3y + 4x = 12$$

x	-3	-2	-1	0	1	2	3
y							

(b) Find the x -intercept and y -intercept.

(c) Plot the graph of this equation on the Cartesian plane.

(d) Find the midpoint of the x -intercept and the y -intercept.

5.

(a) Factor the expression by grouping.

$$6 + 2x - 3x^2 - x^3$$

(b) Solve the inequality $6 + 2x - 3x^2 - x^3 \geq 0$ and sketch the solution on the real number line.

6. The course Math 111I has 4 tests. The first three test are 100 points each and the last test is 200 points. To get an A in the course, you have to have an average of at least 88% on the four tests. Your scores on the first three test are 83, 95, and 82. How many points you have to get on the fourth test to get an A in this course?