

Test 2 Review MAT 1275 Professor Chiu

Name: _____

- This review consists of **7** questions for a total of **100** points.
- You have **60** minutes to complete the review.
- Show all work and justify your answers.
- Scientific calculators are allowed.
- Wishing you success.

Problem 1

Simplify the fraction:

$$\frac{\frac{2}{x-3} + \frac{1}{x+2}}{1 - \frac{x}{3-x}}$$

Problem 2

Divide and simplify:

$$\frac{7\sqrt{2} + 2\sqrt{3}}{\sqrt{2} - \sqrt{3}}$$

Problem 3

Suppose an object has a height $-16t^2 + 48t + 64$ at when the stopwatch reads t seconds. At what time does it hit the ground? At what time is 64 feet above the ground?

Problem 4

Solve

$$x^2 + 4x + 2 = 0$$

Problem 5

Solve

$$x^2 - 6x + 10 = 0$$

Problem 6

Solve for x :

$$x^3 - 5x^2 + 14x - 10 = 0$$

Problem 7

Divide and simplify:

$$\frac{7 + 2i}{3 + 4i}$$