

College Algebra

Test 4

Form A

Spring 2016

Name: _____

Date: _____

READ THESE INSTRUCTIONS CAREFULLY!

- Circle or underline your final written answer.
- Justify your reasoning and show your work.
- If you run out of space, make a note and continue your work on the back of a page.

1. (10 pts.) Solve.

$$3^{2x-1} = 27$$

2. (10 pts.) Solve.

$$2^{x+1} = 3$$

3. (10 pts.) Solve.

$$4^{x+1} = 5^x$$

4. (10 pts.) Solve.

$$3^{2x} - 5(3^x) + 6 = 0$$

5. (10 pts.) Suppose \$1,000 is borrowed at 0.7% interest, compounded monthly, for 5 years. What will be the final value of this account?

6. (10 pts.) Suppose \$2,000 is borrowed at 1.5% interest, compounded quarterly. How many years will it take for this account to be worth \$2,250?

7. (10 pts.) Solve.

$$x^2 - 12x + 35 = 0$$

8. (10 pts.) Solve.

$$y^2 - 9y - 22 = 0$$

Bonus. Find the domain of the following function.

$$f(x) = \frac{1}{2^x - 1}$$