

Name: _____

Date:

Course: _____

Nyack College

College Algebra

Preliminary Assessment #4

Directions: Provide complete responses to each question. Make sure to show your work.

1. Find the product of the following polynomials using the appropriate special formula:

a. $(2x - 1)(2x + 1)$

b. $(3x - 2)(3x + 2)$

c. $(x - 5)^2$

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d. $(3x - 2)^3$

e. $(x - 2)^3$

f. $(2x + 1)^3$

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2. Find the quotient of the following polynomials:

a. *Dividend:* $3x^3 - x^2 + x - 2$

Divisor: x^2

b. *Dividend:* $x^5 - a^5$

Divisor: $x - a$

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3. Factor each the following polynomials completely:

a. $7x - 14$

b. $x^2 - 4$

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c. $x^2 - 25$

d. $x^2 + 10x + 25$

e. $x^2 + 2x - 8$

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f. $3x^2 - 3x + 2x - 2$

g. $2x^2 + 3x + 1$

h. $3x^2 - 14x + 8$

i. $3 - 27x^2$

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j. $8x^2 + 6x - 2$

k. $9x^2 + 9x - 4$

l. $3x^2 - 4x - 20$