

MAT1275CO College Algebra and Trigonometry

Section D103

Exam 1

Version 1

Name:

Directions: Please write all your answers **CLEARLY** in the space provided. **SHOW ALL OF YOUR WORK.** Answers without work shown when necessary will receive no credit. Your final answers should be **BOXED** and written in the provided spaces. Please make clear notes on the front of the page to point to any work on the back of the page that you want graded.

1. (a) (4 points) Evaluate.

$$-16 - (-12) + 4$$

Answer:

(b) (6 points) Multiply and reduce.

$$\frac{7}{10} \cdot \frac{5}{14}$$

Answer:

(c) (6 points) Add.

$$-\frac{15}{32} + \frac{3}{8}$$

Answer:

(d) (4 points) Express the improper fraction $\frac{95}{11}$ as a mixed number.

Answer:

Name: _____

2. (a) (7 points) Evaluate. $10 + 3(6 - 4 \times 2) \div 2$

Answer: _____

(b) (7 points) Evaluate $\frac{a+2b}{c}$ when $a = \frac{1}{2}$, $b = 1$ and $c = \frac{1}{3}$. Express your answer as a whole number or improper fraction.

Answer: _____

(c) (3 points) Simplify. Express your answer with only positive exponents.

$$\frac{1}{x^{-4}}$$

Answer: _____

(d) (3 points) Simplify. Express your answer with only positive exponents.

$$\frac{x^{10}}{x^4} - x^2$$

Answer: _____

Name: _____

3. (a) (6 points) Can the expression $3(4 - 2x) + [4(4x + 1) - 2x]$ be expressed as a linear expression $Ax + B$? If so, find A and B .

$$A = \text{-----} \quad B = \text{-----}$$

- (b) (8 points) Evaluate. Simplify completely.

$$(10a^6 + 5a^5 - 4a^2 + 6) - a(3a^4 - 4a)$$

Answer: _____

- (c) (6 points) Brynn wants to buy fencing to enclose her two gardens. The first garden has a square shape with sides of length L feet. The second garden needs 10 feet of fencing to enclose it. Find an expression for how many feet of fencing Brynn needs to buy to enclose her two gardens (i.e. cover the perimeter of the gardens). Hint: The lengths of all sides of a square are equal.

Answer: _____

Name: _____

4. Multiply and simplify completely.

(a) (6 points) $(3x + 5)(x - 4)$

Answer: _____

(b) (6 points) $(x^2 + 1)(x^2 - 1)$

Answer: _____

(c) (10 points) $(x + 2)(x^2 + 2x + 4)$

Answer: _____

Name: _____

5. (a) (6 points) Simplify completely. Express your answer with only positive exponents.

$$2s^{-1}(s^2t^4)^3$$

Answer: _____

(b) (6 points) Fill in the blanks in the following table. Only list polynomial for “type of polynomial” if the polynomial is not one of the special types of polynomials we learned about.

	x^3+3x^2+5x+1	$-x^2-7x-2$	x^2+4	4
Degree of Polynomial	3			0
Type of Polynomial	Polynomial		Binomial	

(c) (6 points) Multiply and simplify completely.

$$2xy(x^2 + 3xy + y^2)$$

Answer: _____