

The name of the exam 3rd January 2014	Prof.	Student's signature
Last Name:	First Name:	Student's ID:

INSTRUCTIONS

- Write here your instructions
- two
- three

Part One

1. (1 point) exercise 2b $a = 2, b = 4, c = 2$

- (a) answer 4 wrong
- (b) answer 5 wrong
- (c) answer 3 wrong
- (d) answer 2 wrong
- (e) answer 1 correct

2. (1 point) exercise 4c $a = 5, b = 2, c = 4$

- (a) answer 5 wrong
- (b) answer 2 wrong
- (c) answer 1 correct
- (d) answer 3 wrong
- (e) answer 4 wrong

3. (1 point) exercise 1a

- (a) answer 3 wrong
- (b) answer 1 correct
- (c) answer 2 wrong

4. (2 points) exercise 3b $a = 2, b = 5, c = 5$

- (a) answer 3 wrong
- (b) answer 1 correct
- (c) answer 4 wrong
- (d) answer 5 wrong
- (e) answer 2 wrong

1. (2 points) exercise 13b $a = 2, b = 2, c = 8$

- (a) answer 1 correct
- (b) answer 4 wrong
- (c) answer 5 wrong
- (d) answer 2 wrong
- (e) answer 3 wrong

2. (1 point) exercise 12b $a = 4, b = 5, c = 4$

- (a) answer 2 wrong
- (b) answer 1 correct
- (c) answer 4 wrong
- (d) answer 3 wrong
- (e) answer 5 wrong

3. (1 point) exercise 14c $a = 3, b = 5, c = 4$

- (a) answer 3 wrong
- (b) answer 4 wrong
- (c) answer 5 wrong
- (d) answer 1 correct
- (e) answer 2 wrong

4. (1 point) exercise 11a

$\{a, b, x\}$

- (a) answer 2 wrong
- (b) answer 3 wrong
- (c) answer 1 correct

8 points

Part two

Some other instructions.

EXERCISE 1. Solve the following equations:

Equation	
$x^2 + 9x + 20 = 0$	
$x^2 - 9x + 20 = 0$	
$x^2 + 1x - 20 = 0$	
$x^2 - 1x - 20 = 0$	

<i>4 points</i>

EXERCISE 2. List all the elements of the power set (set of subsets) of

$$\{c, x, y\}$$

<i>4 points</i>

EXERCISE 3. $a = 13, b = 13, c = 4, k = 4$

Evaluate $13 - 4 = \boxed{}$ $13 : 4$ with two exact decimals $\boxed{}$ and $4^4 = \underline{\hspace{2cm}}$

<i>4 points</i>

EXERCISE 4.

$a = 5, b = 3, c = 7$

- | | | |
|--|--------------|--------|
| | $7 - 5$ | (A) 15 |
| | 5×3 | (B) 2 |
| | $5 + 3$ | (C) 8 |

<i>3 points</i>

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Part One

1. (1 point) exercise 4d $a = 5, b = 5, c = 3$

- (a) answer 2 wrong
- (b) answer 5 wrong
- (c) answer 3 wrong
- (d) answer 4 wrong
- (e) answer 1 correct

2. (1 point) exercise 1b

- (a) answer 1 correct
- (b) answer 3 wrong
- (c) answer 2 wrong

3. (1 point) exercise 2a $a = 4, b = 3, c = 8$

- (a) answer 1 correct
- (b) answer 2 wrong
- (c) answer 4 wrong
- (d) answer 3 wrong
- (e) answer 5 wrong

4. (2 points) exercise 3a $a = 5, b = 4, c = 4$

- (a) answer 1 correct
- (b) answer 2 wrong
- (c) answer 5 wrong
- (d) answer 3 wrong
- (e) answer 4 wrong

1. (1 point) exercise 14d $a = 3, b = 4, c = 2$

- (a) answer 2 wrong
- (b) answer 3 wrong
- (c) answer 4 wrong
- (d) answer 5 wrong
- (e) answer 1 correct

2. (1 point) exercise 12a $a = 5, b = 4, c = 2$

- (a) answer 4 wrong
- (b) answer 3 wrong
- (c) answer 2 wrong
- (d) answer 5 wrong
- (e) answer 1 correct

3. (1 point) exercise 11b

$$\{a, x, y\}$$

- (a) answer 1 correct
- (b) answer 2 wrong
- (c) answer 3 wrong

4. (2 points) exercise 13a $a = 5, b = 5, c = 8$

- (a) answer 5 wrong
- (b) answer 4 wrong
- (c) answer 1 correct
- (d) answer 2 wrong
- (e) answer 3 wrong

8 points

Part two

Some other instructions.

EXERCISE 1. Let $A = \{a, x, y\}$ and $B = \{a, y, z\}$.

(a) (2 points) List (without repetition) the elements of the set $A \cup B$

$A \cup B =$

4 points

(b) (2 points) List (without repetition) the elements of the set $A \cap B$

$A \cap B =$

EXERCISE 2. Complete the following table of derivatives:

Function	
$f(x) = x^2$	
$f(x) = \sin x$	
$f(x) = \cos x$	

5 points

EXERCISE 3. $a = 14, b = 15, c = 2, k = 4$

If $A = \{a, b, c, d, 14, 2, 4\}$ and $B = \{c, a, 2, 1, 15\}$ then

$A \cup B =$ _____

$A \cap B =$ _____

$A \setminus B =$ _____

4 points

EXERCISE 4. $a = 15, b = 15, c = 2$

___ 5^2 (A) 5

___ 15×15 (B) 225

___ $75 : 15$ (C) 25

3 points

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Part One

1. (1 point) exercise 2c $a = 5, b = 5, c = 2$

- (a) answer 2 wrong
- (b) answer 4 wrong
- (c) answer 1 correct
- (d) answer 3 wrong
- (e) answer 5 wrong

2. (1 point) exercise 1a

- (a) answer 3 wrong
- (b) answer 2 wrong
- (c) answer 1 correct

3. (1 point) exercise 4e $a = 3, b = 2, c = 7$

- (a) answer 2 wrong
- (b) answer 1 correct
- (c) answer 5 wrong
- (d) answer 3 wrong
- (e) answer 4 wrong

4. (2 points) exercise 3b $a = 2, b = 2, c = 2$

- (a) answer 2 wrong
- (b) answer 1 correct
- (c) answer 3 wrong
- (d) answer 4 wrong
- (e) answer 5 wrong

1. (1 point) exercise 11a

$\{b, c, y\}$

- (a) answer 1 correct
- (b) answer 2 wrong
- (c) answer 3 wrong

2. (2 points) exercise 13b $a = 5, b = 4, c = 5$

- (a) answer 3 wrong
- (b) answer 1 correct
- (c) answer 5 wrong
- (d) answer 4 wrong
- (e) answer 2 wrong

3. (1 point) exercise 14e $a = 2, b = 2, c = 3$

- (a) answer 3 wrong
- (b) answer 5 wrong
- (c) answer 1 correct
- (d) answer 4 wrong
- (e) answer 2 wrong

4. (1 point) exercise 12c $a = 4, b = 5, c = 7$

- (a) answer 5 wrong
- (b) answer 3 wrong
- (c) answer 1 correct
- (d) answer 2 wrong
- (e) answer 4 wrong

8 points

Part two

Some other instructions.

EXERCISE 1. Solve the following equations:

Equation	
$x^2 + 10x + 16 = 0$	
$x^2 - 10x + 16 = 0$	
$x^2 + 6x - 16 = 0$	
$x^2 - 6x - 16 = 0$	

<i>4 points</i>

EXERCISE 2.

$a = 4, b = 4, c = 8$

- | | | |
|-----|-------|--------|
| ___ | 8 - 4 | (A) 4 |
| ___ | 4 × 4 | (B) 16 |
| ___ | 4 + 4 | (C) 8 |

<i>3 points</i>

EXERCISE 3. $a = 13, b = 15, c = 2, k = 5$

Evaluate $13 - 2 = \boxed{}$ $15 : 5$ with two exact decimals $\boxed{}$ and $5^2 = \underline{\hspace{2cm}}$

<i>4 points</i>

EXERCISE 4. List all the elements of the power set (set of subsets) of

$\{a, b, c\}$

<i>4 points</i>

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Part One

1. (1 point) exercise 2a $a = 5, b = 4, c = 3$

- (a) answer 2 wrong
- (b) answer 4 wrong
- (c) answer 1 correct
- (d) answer 3 wrong
- (e) answer 5 wrong

2. (1 point) exercise 4b $a = 2, b = 5, c = 5$

- (a) answer 4 wrong
- (b) answer 2 wrong
- (c) answer 1 correct
- (d) answer 5 wrong
- (e) answer 3 wrong

3. (1 point) exercise 1b

- (a) answer 2 wrong
- (b) answer 1 correct
- (c) answer 3 wrong

4. (2 points) exercise 3c $a = 2, b = 3, c = 8$

- (a) answer 5 wrong
- (b) answer 3 wrong
- (c) answer 1 correct
- (d) answer 4 wrong
- (e) answer 2 wrong

1. (2 points) exercise 13c $a = 5, b = 5, c = 6$

- (a) answer 1 correct
- (b) answer 5 wrong
- (c) answer 3 wrong
- (d) answer 4 wrong
- (e) answer 2 wrong

2. (1 point) exercise 11b

$\{a, b, c\}$

- (a) answer 1 correct
- (b) answer 3 wrong
- (c) answer 2 wrong

3. (1 point) exercise 12a $a = 4, b = 4, c = 7$

- (a) answer 3 wrong
- (b) answer 1 correct
- (c) answer 4 wrong
- (d) answer 5 wrong
- (e) answer 2 wrong

4. (1 point) exercise 14b $a = 4, b = 2, c = 6$

- (a) answer 3 wrong
- (b) answer 1 correct
- (c) answer 2 wrong
- (d) answer 4 wrong
- (e) answer 5 wrong

8 points

Part two

Some other instructions.

EXERCISE 1. $a = 15, b = 14, c = 4, k = 5$

If $A = \{a, b, c, d, 15, 4, 5\}$ and $B = \{c, a, 4, 1, 14\}$ then

$A \cup B =$ _____

$A \cap B =$ _____

$A \setminus B =$ _____

4 points

EXERCISE 2. Let $A = \{a, b, c\}$ and $B = \{a, c, x\}$.

(a) (2 points) List (without repetition) the elements of the set $A \cup B$

$A \cup B =$

4 points

(b) (2 points) List (without repetition) the elements of the set $A \cap B$

$A \cap B =$

EXERCISE 3. $a = 14, b = 15, c = 3$

___ 14×15

(A) 27

___ $42 : 14$

(B) 3

___ 3^3

(C) 210

3 points

EXERCISE 4. Complete the following table of derivatives:

Function	
$f(x) = x^2$	
$f(x) = \sin x$	
$f(x) = \cos x$	

5 points