

<b>The name of the exam</b> 22 gennaio 2022	<b>Prof.</b>	<b>Firma leggibile dello studente</b>
<b>Cognome:</b>	<b>Nome:</b>	<b>Matricola:</b>

## INSTRUCTIONS

- Write here your instructions
- two
- three

## Part One

SOME EXERCISES FROM 2 FILES

1. (1 punto) exercise 2a  $a = 4, b = 2, c = 7$

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

2. (2 punti) exercise 3b  $a = 2, b = 3, c = 6$

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

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

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

4. (1 punto) exercise 2c  $a = 3, b = 5, c = 6$

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

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

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

6. (1 punto) exercise 1a  $a = 7$

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

7. (2 punti) exercise 9b  $a = 3, b = 5, c = 3$

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

15 punti
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8. (1 punto) exercise 14a  $a = 3, b = 5, c = 5$   
 $\alpha_{hai} = 11 \alpha_{hail} = 5$

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

9. (1 punto) exercise 4e  $a = 2, b = 5, c = 7$

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

10. (1 punto)  $a = 15, b = 15, c = 3, k = 5$   
Evaluate with two exact decimals

$$15 : 5 = \boxed{\phantom{000}}$$

ALL THE PROBLEMS OF A FILE

11. (1 punto) exercise 11a

$\{b, c, y\}$

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

(c) answer 2 wrong

12. (1 punto) exercise 11b

$\{a, b, c\}$

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

SOME OTHER QUESTIONS

1. (1 punto) exercise 12a  $a = 3, b = 5, c = 6$

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

2. (2 punti) exercise 13b  $a = 4, b = 4, c = 6$

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

## Part two

Some other instructions.

ESERCIZIO 1. Let  $A = \{a,b,c\}$  and  $B = \{a,c,x\}$ .

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

4 punti

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

An example of matching question.

ESERCIZIO 2.

$a = 5$ ,  $b = 4$ ,  $c = 6$

\_\_\_  $5 \times 4$

(A) 20

\_\_\_  $5 + 4$

(B) 1

\_\_\_  $6 - 5$

(C) 9

<i>3 punti</i>

An example of “tabella” question.

ESERCIZIO 3. Solve the following equations:

<i>4 punti</i>

Equation	
$x^2 + 7x + 10 = 0$	
$x^2 - 7x + 10 = 0$	
$x^2 + 3x - 10 = 0$	
$x^2 - 3x - 10 = 0$	

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## Part One

SOME EXERCISES FROM 2 FILES

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

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

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

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

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

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

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

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

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

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

6. (1 punto) exercise 1b  $a = 2$

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

7. (1 punto)  $a = 14, b = 14, c = 4, k = 5$

Evaluate with two exact decimals

$$14 : 4 =$$

15 punti

8. (2 punti) exercise 9c  $a = 5, b = 3, c = 8$

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

9. (1 punto) exercise 14a  $a = 3, b = 3, c = 2$   $\alpha_i = 5$   
 $\alpha_{ii} = 7$

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

10. (1 punto) exercise 4b  $a = 5, b = 5, c = 2$

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

ALL THE PROBLEMS OF A FILE

11. (1 punto) exercise 11b

$\{c, y, z\}$

- (a) answer 3 wrong

(b) answer 2 wrong

(c) answer 1 correct

12. (1 punto) exercise 11a

$\{a, c, x\}$

(a) answer 3 wrong

(b) answer 2 wrong

(c) answer 1 correct

SOME OTHER QUESTIONS

1. (2 punti) exercise 13c  $a = 5, b = 5, c = 8$

(a) answer 1 correct

(b) answer 2 wrong

(c) answer 3 wrong

(d) answer 4 wrong

(e) answer 5 wrong

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

(a) answer 2 wrong

(b) answer 5 wrong

(c) answer 3 wrong

(d) answer 1 correct

(e) answer 4 wrong

## Part two

Some other instructions.

ESERCIZIO 1. Let  $A = \{a,b,c\}$  and  $B = \{a,c,y\}$ .

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

4 punti

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

An example of matching question.

ESERCIZIO 2.  $a = 12, b = 14, c = 4$

- |     |                |     |     |
|-----|----------------|-----|-----|
| ___ | $12 \times 14$ | (A) | 168 |
| ___ | $12 \times 14$ | (B) | 168 |
| ___ | $12 \times 14$ | (C) | 168 |
| ___ | $48 : 12$      | (D) | 256 |
| ___ | $4^4$          | (E) | 4   |

<i>3 punti</i>
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An example of “tabella” question.

ESERCIZIO 3. Complete the following table of derivatives:

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

5 punti

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## Part One

SOME EXERCISES FROM 2 FILES

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

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

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

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

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

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

4. (2 punti) exercise 3b  $a = 5, b = 5, c = 8$

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

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

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

6. (1 punto) exercise 14a  $a = 4, b = 3, c = 7$   $\alpha_i = 3$   
 $\alpha_{ii} = 11$

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

7. (1 punto)  $a = 13, b = 13, c = 3, k = 4$   
Evaluate with two exact decimals

$$13 : 4 =$$

15 punti

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

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

9. (1 punto) exercise 1a  $a = 3$

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

10. (2 punti) exercise 9d  $a = 3, b = 3, c = 5$

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

ALL THE PROBLEMS OF A FILE

11. (1 punto) exercise 11b

$\{a, b, c\}$

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

(c) answer 2 wrong

12. (1 punto) exercise 11a

$\{a, b, x\}$

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

SOME OTHER QUESTIONS

1. (1 punto) exercise 12a  $a = 3, b = 5, c = 3$

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

2. (2 punti) exercise 13d  $a = 3, b = 4, c = 6$

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

## Part two

**Some other instructions.**

ESERCIZIO 1. Let  $A = \{a,b,c\}$  and  $B = \{a,c,y\}$ .

- (a) (*2 punti*) List (without repetition) the elements of the set  $A \cup B$   
 $A \cup B =$

<i>4 punti</i>

- (b) (*2 punti*) List (without repetition) the elements of the set  $A \cap B$   
 $A \cap B =$

An example of matching question.

ESERCIZIO 2.

$a = 4$ ,  $b = 3$ ,  $c = 7$

\_\_\_  $4 \times 3$

(A) 12

\_\_\_  $4 + 3$

(B) 7

\_\_\_  $7 - 4$

(C) 3

<i>3 punti</i>

An example of “tabella” question.

ESERCIZIO 3. Solve the following equations:

<i>4 punti</i>

Equation	
$x^2 + 9x + 14 = 0$	
$x^2 - 9x + 14 = 0$	
$x^2 + 5x - 14 = 0$	
$x^2 - 5x - 14 = 0$	

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## INSTRUCTIONS

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- three

## Part One

SOME EXERCISES FROM 2 FILES

1. (1 punto) exercise 2b  $a = 3, b = 2, c = 6$

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

2. (1 punto) exercise 2a  $a = 3, b = 5, c = 6$

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

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

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

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

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

5. (1 punto) exercise 2c  $a = 4, b = 2, c = 6$

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

6. (1 punto) exercise 4e  $a = 2, b = 5, c = 7$

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

7. (2 punti) exercise 9c  $a = 2, b = 3, c = 4$

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

15 punti
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8. (1 punto) exercise 1b  $a = 2$

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

9. (1 punto) exercise 14a  $a = 4, b = 3, c = 7$   $\alpha = 5$   
 $\beta = 7$

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

10. (1 punto)  $a = 12, b = 13, c = 3, k = 5$

Evaluate with two exact decimals

$$12 : 3 =$$

ALL THE PROBLEMS OF A FILE

11. (1 punto) exercise 11b

$\{a, c, z\}$

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

12. (1 punto) exercise 11a

$\{b, c, x\}$

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

SOME OTHER QUESTIONS

1. (2 punti) exercise 13c  $a = 4, b = 4, c = 6$

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

2. (1 punto) exercise 12c  $a = 3, b = 5, c = 3$

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

## Part two

Some other instructions.

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

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

4 punti

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

An example of matching question.

ESERCIZIO 2.  $a = 12, b = 13, c = 2$

\_\_\_  $12 \times 13$

\_\_\_  $3^2$

\_\_\_  $36 : 12$

\_\_\_  $12 \times 13$

\_\_\_  $12 \times 13$

(A) 9

(B) 3

(C) 156

(D) 156

(E) 156

<i>3 punti</i>

An example of “tabella” question.

ESERCIZIO 3. Complete the following table of derivatives:

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

5 punti