



Name: _____
 Teacher: (please circle your class teacher)
 SOUROULLAS/RANIGA/TANIOS

Year 9
Mathematics 5.1-5.3 (Section I)
Half Yearly Examination
2011

NON-CALCULATOR SECTION

General Instructions

- Working time – 30 minutes
- Write using black or blue pen
- Draw diagrams using pencil

Note: Any time you have remaining should be spent revising your answers.

DO NOT REMOVE THIS PAPER FROM THE EXAMINATION ROOM

Section I Non-Calculator	/25
Section II Calculator	/70
Total	/95

Total marks – 95

Section I

25 marks

- Attempt Questions 1-25
- Calculators may **NOT** be used in Section I

Section II

70 marks

- Attempt all questions
- Marks are shown next to each question
- Calculators may be used in Section II

SECTION 1 – Non-Calculator (25 marks)

Calculators may NOT be used in this section of the test.
 You have 30 minutes to complete Section 1 of the test.
 ALL questions in this section are worth 1 mark unless otherwise stated.

Question and Working	Answer
1. Find $10 - (-3)$	
2. Which of the following is <i>not</i> a rational number: A. -3 B. 4.6 C. $\sqrt{4}$ D. $\sqrt{3}$	
3. $5 \times 6 + 20 \div 4$ is the same as: A. $5 \times 26 + 4$ B. $50 + 4$ C. 35 D. 55	
4. (10^3) is the same as: A. -1000 B. 1000 C. -30 D. 30	
5. If $\square < -5$, then \square can have the value: A. 0 B. -2 C. -6 D. $-\frac{1}{5}$	
6. Which two temperatures are closest to each other: A. -3°C and -5°C B. -3°C and 5°C C. 3°C and -3°C D. 3°C and -5°C	
7. Round off 3.6974 correct to 2 decimal places.	

14. Naomi is a teacher and she asks her class about the number of vehicles their families own. She finds that $\frac{2}{5}$ of her class has one car, $\frac{3}{10}$ has two cars and $\frac{1}{4}$ has more than two cars. What fraction of the class has no car?

15. $0.24 \times \square = 0.12$
The missing number in the sentence above is :

- A. 5
- B. 0.5
- C. 0.05
- D. 2

16. Rewrite the following numbers in the spaces provided, in ascending order.

$\frac{1}{2}$, 0.45, 80%, $\frac{2}{5}$

$\frac{1}{2}$

0.45

80%

$\frac{2}{5}$

17. Complete line 7 of the pattern below.

Line 1 $1^2 = 1$
Line 2 $2^2 = 1 + 3$
Line 3 $3^2 = 1 + 3 + 5$
Line 4 $4^2 = 1 + 3 + 5 + 7$

.....
.....

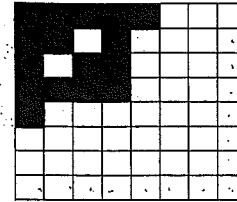
Line 7 $7^2 = 1 + 3 + 5 + 7 + \square$

23. The time on a digital clock appears as:

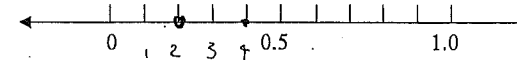
14.51

How many minutes are there until 4 pm on the same day?

24. What fraction of the shape is shaded?



25. Mark $\frac{2}{5}$ on the number line



END OF SECTION I

Name: _____
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Year 9
Mathematics 5.1-5.3 (Section II)
Half Yearly Examination
2011

CALCULATOR SECTION

General Instructions

- Working time – 60 minutes
- Write using black or blue pen
- Draw diagrams using pencil
- Calculators may be used

Note: Any time you have remaining should be spent revising your answers.

Total marks – 95

Section I

25 marks

- Attempt Questions 1-20
- Calculators may **NOT** be used in Section I

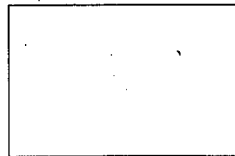
Section II

70 marks

- Attempt all questions
- Marks are shown next to each question
- Calculators may be used in Section II
- **Question 5 contains extension questions. Attempt Question 5 once you have completed as much as you can from Questions 1-4.**

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Total	/70
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c) If $a = 3, b = -1, c = 4$ evaluate:	1
i) $a + b + c =$	
ii) $a - b + c^2 =$	1
iii) $\frac{\sqrt{a^2+c^2}}{5b} =$	1
d) Write an algebraic expression for	
	
i) The Perimeter	1
ii) The Area	2
END OF QUESTION 1	

c) Simplify

3

iii) $\frac{5x-4}{2} - \frac{3-x}{3} =$

END OF QUESTION 2

Question 4 (14 marks)

Marks

a) Simplify

2

i) $\frac{x-3}{x^2-5x+6} =$

3

ii) $\frac{y-6}{y^2-36} \times \frac{y+6}{3} =$

1

b) Simplify

i) $\sqrt{27} =$

1

ii) $\sqrt{\frac{25}{81}} =$

1

iii) $12\sqrt{5} + \sqrt{5} - 7\sqrt{5} =$

Question 5 (14 marks)

Marks

EXTENDED QUESTIONS

a) Simplify

$$\frac{3a}{8bc} \times \frac{b}{9a} \div \frac{a}{32b} =$$

2

b) The formula $d = \frac{at^2}{2}$ gives the distance travelled by a dragster accelerating

from a standing start, where:

d = distance travelled in metres.

a = acceleration in metres/second².

t = time that it is accelerating in seconds.

2

What is the acceleration of a dragster that accelerates over 200m in 5 seconds?

c) Expand and simplify $(3(x-1)^2 - 2(x-1)(x+1)) =$

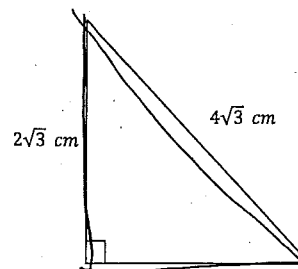
3

Question 5 Continued

Marks

f) Find the perimeter of the following triangle. Leave your answers in surd form.

2



END OF QUESTION 5
End of Assessment Task