TAURANGA GIRLS COLLEGE YEAR 10 HOMEWORK SHEET Series C Sheet 2

TGC Values: Respect, Participation, Pride

KEY SKILLS:

- In the number 765.41 what digit is in the *tenths* column? _____
- 2. Round 0.679 to the nearest *hundredth*
- **3.** Write *twenty two hundredths* as a decimal
- **4.** 5.6 m = ____ mm
- 5. How many square metres are there in one hectare?
- 6. Complete this equivalent fraction $\frac{3}{4} = \frac{1}{20}$

10. It was recorded how long some year 11 students took to run 50 metres. The times were recorded to the nearest second.

- a) How many students ran? _____
- b) What was the *median* time? ?_____
- c) What was the *upper quartile* time?
- d) What is the *shape* of the times to run 50 metres?

Name: _____

Due Date:



- **7.** Calculate 45% of \$560
- 8. What is the *perimeter* of this rectangle?



9. What is the *area* of the rectangle shown above?



Key Skills Total: _____ / 13

REVIEW and CURRENT WORK (CL 4 – 5): Number and Algebra

(You can use a calculator)

- A. Review
- **1.** $14^2 =$
- **2.** $\frac{3}{4}$ of \$640 =
- **3.** $\sqrt{578}$ = (1dp)
- 4. 36 out of 80 people in a survey had been to the South Island. What percentage is this?
- **5.** a = 6 and d = 4, find the value of:
- **a)** 3a + 4d =
- **b)** 3ad =
- **c)** $\frac{a}{2} =$
- **d)** a² =

=

y =

6. If v = u + at find v if u = 5, a = 8 and t = 4 v =

B. Patterns and Rules

a) Find the rule connecting x and y for each table:

Х	У	X	У
1	5	1	2
2	8	2	7
3	11	3	12
4	14	4	17

y =



Complete the table:					
C, Circles	1	2	3	4	
D, Dots	0	2			

Write the rule linking D and C

D =

How many dots are there if you have 100 circles?

C. Algebra Simplifying

Adding and Subtracting:

- **a)** 6a + 2a =
- **b)** 3a + 7a + a =
- **c)** 12a 10a =
- **d)** 3a 5a =
- **e)** ⁻2a 3a =
- **f)** 7a 5a 2a 3a =
- **g)** 6a + 3c + 2a + 7c =
- **h)** 5a + 7c + a + c =
- i) 7a + 5c 2a c =
- **j)** 8a 2c + a + 7c =
- **k)** 12a 2c + 3c =

Current Work CL4-5: ____ / 25

TAURANGA GIRLS COLLEGE YEAR 10 HOMEWORK SHEET Series C

Sheet 10C2

REVIEW and CURRENT WORK (CL 5 – 6): Number and Algebra

(You can use a calculator)

A Review ...

Calculate

- **1.** $\sqrt{3490}$ = (2sf)
- What is the full cost of an item marked \$398 + GST?
- 3. In has rained on 13 days in the last three weeks. What percentage of days is this?
- 4. Complete this table:

Ordinary form	Standard form	
0.021		
	2.5 x 10 ⁴	

5.
$$M = \frac{2c - a}{5d}$$

Find M if c = 5, a = -4 and d = 2

B. Patterns and Rules

 Find the rule connecting x and y for each table:

Х	У	Х	У
1	5	1	-21
2	2	2	-17
3	-1	3	-13
4	-4	4	-9
	·		
y =		y =	:

- a) Write a rule connecting the number of matchsticks M and the number of pentagons P using the letters M and P.
- b) How many matchsticks are needed for 50 pentagons?

C. Algebra Simplifying

Adding and Subtracting:

- **a)** 6a + 12a 2c 3c =
- **b)** 3a 7c 5a 9c =
- **c)** 7a − 3c − 10a − c =

d)
$$a^2 + a^2 =$$

e)
$$3a^2 + 4a^2 =$$

f) $5a^2 + 2a^2 + 7a^3 + 4a^3 =$

Multiplying

- (a) $6g x^{-}2h =$
- (b) 2a x 5a x -3 =
- (c) 5a x 3a x 2a =
- (d) 3a x 2c x 4a =

(e)
$$(3a)^2 =$$

Current Work CL5-6: ____ /21

TAURANGA GIRLS COLLEGE YEAR 10 HOMEWORK SHEET Series C Sheet 10C2

APPLICATIONS and TASKS

For each of these tasks you must show your working. Set out your solution in a clear and ordered manner. **Read the question carefully.**

Task One (2 marks)

The distance in kilometres *d* to the horizon from any point which is *h* metres above sea level is approximately given by the rule: $d = \sqrt{13h}$ If you are standing at the top of Mauao, which is 232m high, should you be able to see Whakaari (White Island), 89km away? Why?

Task Two (4 marks)

A cylinder and sphere are shown below:



Their surface areas are given by these formulae: Sphere: $A = 4\pi r^2$ Cylinder: $A = 2\pi r(h + r)$

Calculate which shape has the greatest area if the value of h = 12cm and r = 10cm.

Give the percentage increase in surface from the smaller area to the bigger area.

Applications Total: _____ / 4

Overall Results:

KS	CL4-5	CL5-6	APP	Parent Signature:
13	25	21	4	

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