

TAURANGA GIRLS COLLEGE

YEAR 10 HOMEWORK SHEET

Series C Sheet 3

TGC Values: Respect, Participation, Pride

Name: _____

Due Date: _____



KEY SKILLS:

1. In the number 7985.413 what digit is in the *hundredths* column?

2. Round 0.239 to the nearest *hundredth*

3. Write *two and six tenths* as a *decimal*

4. 2.6 litres = _____ mL

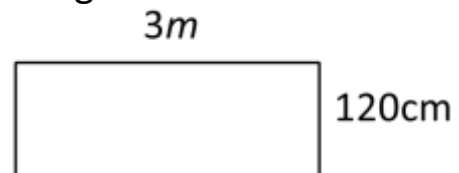
5. What is the metric unit for liquid capacity?

6. Complete this equivalent fraction

$$\frac{3}{5} = \frac{\quad}{20}$$

7. Calculate 35% of \$350

8. What is the *perimeter* of this rectangle?



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

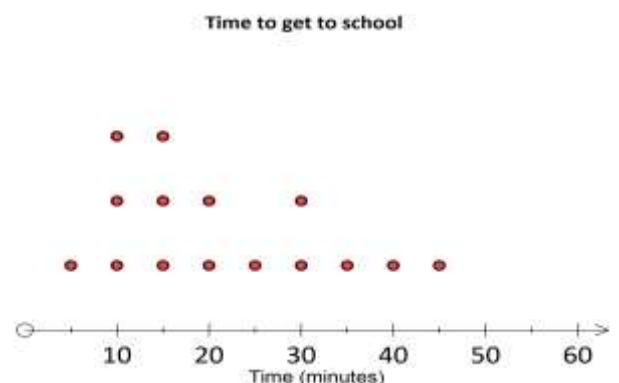
10. It was recorded how long some year 7 students took to walk to school. The times were recorded to the nearest minute.

a) How many times were recorded? _____

b) What was the *median* time? _____

c) What was the *upper quartile* time? _____

d) What is the *shape* of the times walk to school? _____



Key Skills Total: _____ / 13

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

(You can use a calculator)

A. Review

1. $\frac{3}{5}$ of \$640 =

2. 84 out of 240 people in a survey owned an iphone. What percentage is this?

3. If $w = 3u - 5v$ find w if $u = 5$, and $v = -2$
 $w =$
 $=$



Complete the table:

P, Parallelograms	1	2	3	4
L, Lines	4	7		

Write the rule linking P and L

L =

How many lines are there if you have 70 parallelograms?

Adding and Subtracting:

1. $3c + 7c + c =$

2. $-2c - 5c =$

3. $7a - 6a - 4a - 2a =$

4. $6a + 3c + 2a + 7c =$

5. $11a + 9c - a - c =$

6. $6f + 3g - 2f - 9g =$

7. $4a + 8c - 2a - c =$

B. More Algebra Simplifying

Multiplying and dividing

1. $7 \times 5a =$

2. $4a \times 7 =$

3. $3a \times -7 =$

4. $4a \times 5c =$

5. $4a \times 5a =$

6. $c \times c \times c =$

7. $\frac{15a}{5} =$

8. $\frac{12c}{4} =$

9. $\frac{21ac}{3} =$

10. $\frac{15a}{3a} =$

C. Working with Powers: Simplify:

1. $e^2 \times e^4 =$

2. $g^6 \times g^7 =$

3. $\frac{a^8}{a^2} =$

4. $\frac{12a^{18}}{a^{12}} =$

D. Expanding: Expand the brackets:

1. $4(a + 5) =$

2. $7(2c - 3) =$

3. $2a(2c + 9) =$

Current Work CL4-5: ____ / 29

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

(You can use a calculator)

A. Review ...

Calculate

1. $\sqrt{31118} =$ (2sf)

2. What is the cost of an item marked \$1390 less 4.5%?

3. Ian's pay increased from \$15.60 to \$16.20 an hour. What percentage increase is this?

4. Complete this table:

Ordinary form	Standard form
9,870,000	
	4.15×10^{-3}

5. $M = \frac{c}{5d - a}$ if $c = 5$, $a = -4$ and $d = 2$, find M to 2dp.

Patterns and Rules

1. Find the rule connecting x and y for each table:

x	y	x	y
1	7	1	-21
2	2	2	-16
3	-3	3	-11
4	-8	4	-6

$y =$

$y =$

Adding and Subtracting:

1. $17a - c - 10a - c =$

2. $a^3 + a^3 =$

3. $3a^2 - 9a^2 =$

4. $5a^2 - 2a^2 - 7a^3 + 4a^3 =$

B. Multiplying, Dividing and Powers

1. $6g \times ^{-2}h \times h =$

2. $5a \times 3a \times ^{-2}a =$

3. $3a \times 2h \times ^{-2}h \times 4a \times ^{-2}h =$

4. $\frac{15ac}{5cd} =$

5. $\frac{12c}{40cd} =$

6. $\frac{21ac}{30a^2} =$

E. Working with Powers:

Simplify:

7. $7e \times ^{-2}e^8 =$

8. $^{-2}hg^7 \times ^{-2}hg^6 =$

9. $\frac{12a^8}{3a^2} =$

10. $\frac{12a^{18}}{9a^6} =$

11. $\frac{12a^{18}c^4}{9a^6c} =$

12. $(3a^7)^2 =$

13. $(4a^4d^5)^3 =$

Current Work CL5-6: ____ /25

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 (3 marks)

Mr Smith keeps pencils and rulers in his room to sell to students.

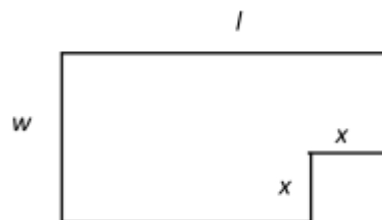
- If he sells pencils for 20 cents and rulers for 30 cents, what is the cost of 12 rulers and 8 pencils?
- Write a formula for the total cost C of p pencils and r rulers.
- If Mr Smith decided that rulers and pencils could both be sold for 25 cents each, write a new formula for the total cost C .

Task Two (4 marks)

The rectangle shown has a width w , and a length l .



- If the width is 2.7m and the length is 5.2m what is the *perimeter* of the rectangle?
- Write an expression for the perimeter using w and l
- If a square of length x is taken out of the one corner, write an expression for the perimeter of the whole shape.
Simplify your answer **and** compare your answers to parts b) and c)



Applications Total: _____ / 4

Overall Results:

KS	CL4-5	CL5-6	APP	Parent Signature:
13	29	25	4	