

# TAURANGA GIRLS COLLEGE YEAR 10 HOMEWORK SHEET Series C Sheet 5

TGC Values: Respect, Participation, Pride

Name: \_\_\_\_\_

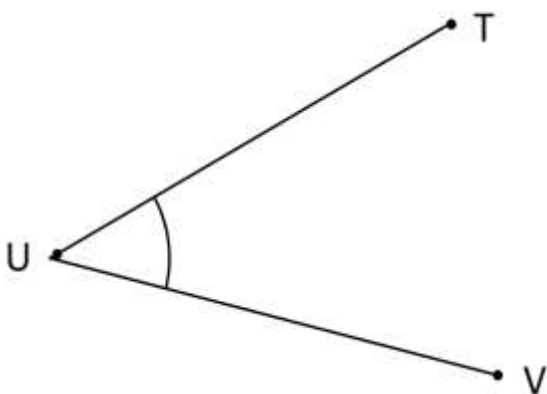
Due Date: \_\_\_\_\_



## KEY SKILLS:

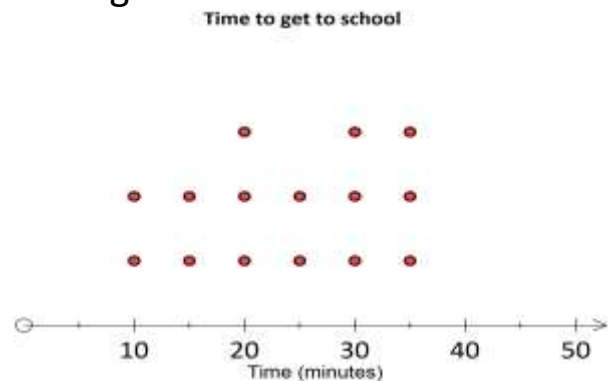
- Write the number two hundred thousand and forty  
\_\_\_\_\_
- Round 745,630 to the ten nearest thousand  
\_\_\_\_\_
- Write *sixteen hundredths* a decimal  
\_\_\_\_\_
- $2\frac{1}{2}$  kg = \_\_\_\_\_ g
- What is the metric unit for power?
- Complete this equivalent fraction  
 $\frac{3}{7} = \frac{\quad}{35}$
- Calculate 35% of \$6250

8.



Is this angle *acute*, *obtuse* or *reflex*?

- If a wheel turns through ten complete revolutions how many right angles has it turned through?



- The dot plot above records how long students in 10DEF took to get to school. The times were recorded to the nearest five minutes.
  - What was the *modal (mode)* time?
  - What was the *median* time?
  - What was the *upper quartile* time?
  - What is the *shape* of the times to get to school for 10DEF?

Key Skills Total: \_\_\_\_\_ / 13

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

(You can use a calculator)

### A. Review

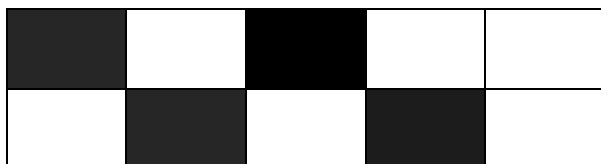
1.  $54^2 =$

2.  $\frac{3}{4}$  of \$580 =

3.  $\sqrt{351} =$  (1dp)

4. Of the 40 people asked 28 have been to Wellington. What percentage is this?

5.



In the diagram above give the ratio of Shaded to Unshaded sections

6. Divide \$60 in the ratio 2:3

### Algebra Review:

7. If  $w = 2u - 5v$  if  $u = 7$ , and  $v = -2$   
Find the value of  $w$

$w =$

$=$

8.

x	1	2	3	4
y	7	17	27	37

Write the rule linking  $x$  and  $y$

9.  $3c + c + 11c =$

10.  $17k - 2k - k - 12k =$

11.  $15a + 2c + a + 7c =$

12.  $6f + 13g - 2f - 7g =$

13.  $6a \times 7 =$

14.  $3a \times 5c =$

15.  $2a \times a =$

16.  $c \times c \times c =$

17.  $\frac{35a}{7} =$

18.  $\frac{20ac}{5a} =$

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

20.  $a^7 \times a^8 =$

21.  $\frac{a^{16}}{a^4} =$

### Expand the brackets:

1.  $2(c + 5) = 2a + \dots\dots\dots$

2.  $3(5x - 9) = 15x - \dots\dots$

3.  $a(k + 7) =$

4.  $2a(7a - 3c) =$

### Factorise:

1.  $5a + 15 = 5(a + \dots\dots\dots)$

2.  $3c - 21 = 3(\dots\dots\dots - \dots\dots\dots)$

3.  $12x + 6 = 6(\dots\dots\dots)$

4.  $6a + 3 =$

5.  $cd - 12d =$

Current Work CL4-5: \_\_\_\_ / 30

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

(You can use a calculator)

## A. Review ...

### Calculate

1.  $\sqrt{15^2 + 27^2} =$  (2sf)

2. What is the cost of an item marked \$1390 less 4.2%

3. Janet saved \$85 a week. If this is 18% of her weekly income, how much does she earn each week?

4. Complete this table:

Ordinary form	Standard form
	$4.52 \times 10^5$
0.00000045	

## B. Algebra Review

### Simplify:

1.  $5a - 7c - a - 9c$

2.  $5a - 2a^2 - 7a + 9a^2 =$

3.  $6c \times ^{-2}c \times c =$

4.  $15e^3 \times 2e^6 =$

5.  $\frac{15ac}{35cdf} =$

6.  $\frac{12a^{16}}{20a^4} =$

7.  $(4a^8)^3 =$

8.  $(2a^6)^3 \times (3a^7)^2 =$

### Expand and simplify

1.  $3a(4a + 5c) =$

2.  $3a^2(6a^4 - 7c) =$

3.  $5(3a + 4c) + 2(5a + 8c)$

=

=

4.  $3(7a - 3) - 4(5a - 2)$

=

=

5.  $(x + 2)(x + 5)$

=  $x^2 + \dots + \dots + \dots$

=

6.  $(x - 4)(x + 7)$

=  $\dots \dots \dots$

=

7.  $(x - 4)^2 = (x - 4)(x - 4)$

=

=

### Factorise:

1.  $5cd + 20c =$

2.  $25c^2 + 15ac =$

3.  $6x^{12} + 12x^8 =$

Current Work CL5-6: \_\_\_\_ /22

## APPLICATIONS and TASKS

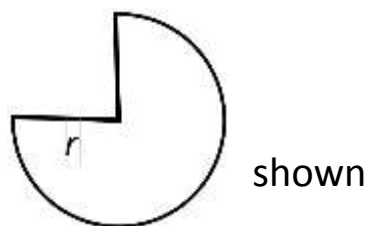
For each of these tasks you **must show your working**. Set out your solution in a clear and ordered manner. **Read the question carefully.**

### Task One (2 marks)

The formula for the perimeter  $P$  of the shape

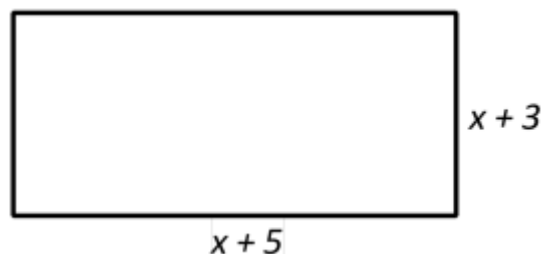
is:  $P = 2r + \frac{3\pi r}{2}$

Find the perimeter of the shape if  $r = 8\text{cm}$



### Task Two (2 marks)

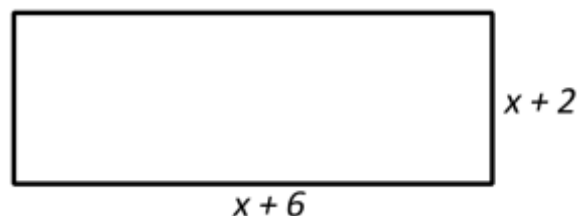
- a) Write a formula for the *perimeter* of this shape. Simplify your answer.



- b) Write a formula for the *area* of this shape. Simplify your answer.

### Task Three (2 marks)

- a) Write a formula for the *area* of this shape. Simplify your answer.



- b) Which of the two rectangles in Tasks Two and Three has the largest area? Explain your answer.

Applications Total: \_\_\_\_\_ / 6

### Overall Results:

KS	CL4-5	CL5-6	APP	Parent Signature:
13	30	22	6	