Carlingford High School

Mathematics
Year 7 Term 3 Test 2017

Student Name: _____

Circle your Teacher below.

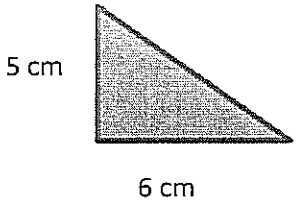
Mrs.Tomar/Mrs.Virmani Mr Gong Mr Jiang

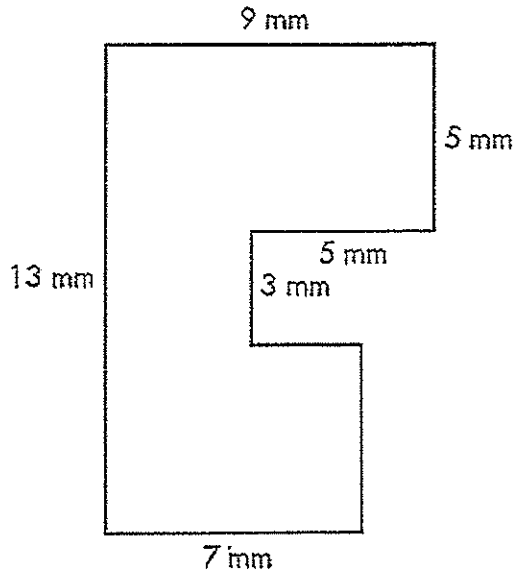
Ms Pennington Ms Nicolaou Ms Wilson/MsYoung

Time allowed: ***55 minutes***

- Complete the examination in blue or black pen.
- Show all necessary working.
- Attempt all questions.
- Extension questions are marked with an asterisk *.
- Calculators are not allowed.

	Length and Area	Algebra	Decimals	Total	
Questions	/17	/23	/26	/66	
Extension	/5	/2	/4	/11	
Total	/22	/25	/30	/77	%

	Length and Area	(22)
1	Convert the following: i. 4 tonne to kg : _____ ii. 2.8 km to cm: _____ iii. 40 min to hrs: _____	(3)
2	A rectangle has a perimeter of 100 cm. If its length is 40 cm what is its width?	(2)
3	Find the area of the rectangle with length 42 cm and width 80 mm.	(3)
4	Find the area of given triangle with base 6 cm and height 5 cm.  	(2)
5	What unit would you use to measure the following: a) The distance from your school to Epping Station. _____ b) The length of your mathematics book. _____ c) The width of your small fingernail. _____	(3)

6	Find the area of the figure below  	(4)
7*	Kevin's livingroom floor measure 3.8 m by 2.5 m. He buys a rectangular carpet of length 30 cm and width 20 cm. **a)** What is the area of Kevin's living room floor? **b)** What is the area of the carpet in square metres? **c)** What is the number of rectangular carpets required to cover the entire floor ?	 (2) (2) (1)

	ALGEBRA	(25)
1	Simplify i. $5m - m =$ _____ ii. $2a + 3b + 3a - 5b =$ _____ _____ iii. $6x + 3x + x =$ _____	(1) (2) (1)
2	Write an expression for the followings: i. Sum of p and q. ii. Product of r and 12 added to 15. iii. 85 divided by y. iv. One-third of a number y. v. 10 decreased by c. vi. The amount of money spent if you buy m ice creams for \$2 each. vii. Square root of a number (n) added to 17.	(7)
3	If $x = 5, y = 2$ and $z = 4$. find a) $x + y + z =$ _____ _____	(2)

	b) $2x - y =$ _____ _____ c) $5z - y^2 =$ _____ _____	(2) (2)
4 * *	Expand and simplify the expressions: a) $5a(2a + 3b)$ b) $2z + 4(3x + 10z)$ c) $(3p - 4p) - 2(q - 2p)$	(2) (2) (2)
5.	Write the following expressions in expanded form : a) $5x + y$ b) $\frac{5mn}{2a}$	(2)

	Decimals	**(30)**
1	How many decimal places are there in i. 15.062 _____ ii. 0.0462 _____	**(2)**
2	**A.** Arrange in ascending order a) 0.7, 0.07, 0.05, 0.44, 0.007 **B.** Convert each decimal to a simplified fraction a) 0.06 b) 27.25 c) 0.0023	**(2)** **(2)** **(2)** **(1)**
3	Evaluate 76.029 – 8.914	**(2)**

4	A school bag has a total weight of 10 kg. If the books weigh 8.35 kg. What is the weight of the bag?	**(2)**
5	Simon earned $18.45 per hour. How much will he earn for 40 hour week.	**(2)**
6	State if the given decimals are terminating or recurring. a) 0.33... _____ b) 0.540 _____	**(2)**
7	Sean bought these lengths of cables to complete a wiring job: 12.3 m, 7.98 m, 23.6 m and 13.65 m. a) How many meters of cable he used for the job? **(2)** b) If the shopkeeper had 100m of cable. How many meters of cable were left with the shopkeeper? **(2)**	

8	Round off 10.337 to two decimal places.	**(1)**
9	Lisa buys a pack of lolly for \$4.85 each and sells them for \$5.15 each. a) How much money did she make per packet?	**(2)**
	b) How much money does she make if she sells 30 packets?	**(2)**
10*	I have \$20 to pay for petrol, the petrol costs \$ 0.65 per litre. a) What is the cost of filling 40 litres of petrol?	**(2)**
	b) Do I have enough money to pay for 40 litres?	**(1)**
	c) If not, how much money do I require?	**(1)**

End of Examination

	SOLUTIONS	(1)

End of Examination

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Mathematics
Year 7 Term 3 Test 2017

Student Name: _____

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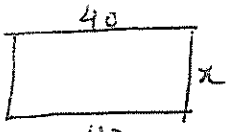
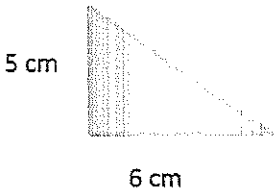
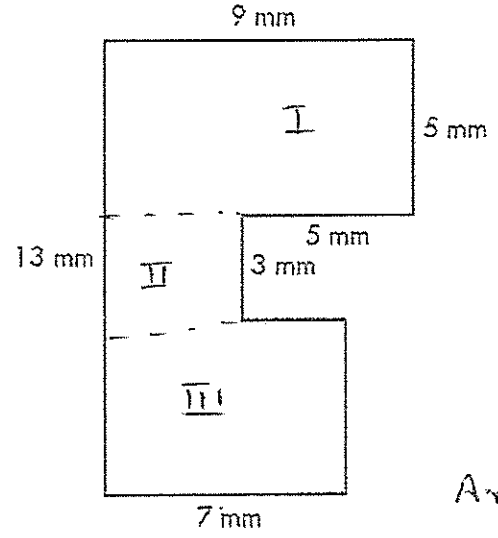
Time allowed: ***55 minutes***

- Complete the examination in blue or black pen.
- Show all necessary working.
- Attempt all questions.
- Extension questions are marked with an asterisk *.
- Calculators are not allowed.

	Length and Area	(22)
1	Convert the following: i. 4 tonne to kg : 4000 Kg — (1) ii. 2.8 km to cm: 280000 cm — (1) iii. 40 min to hrs: $\frac{40}{60} = \frac{2}{3}$ hrs — (1)	(3)
2	A rectangle has a perimeter of 100 cm. If its length is 40 cm what is its width? Perimeter of rectangle = 100cm Let width = x 40 + 40 + x + x = 100 80 + 2x = 100 2x = 20 x = 10cm ∴ width is 10cm 	(2)
3	Find the area of the rectangle with length 42 cm and width 80 mm. Area of rectangle = L x w — (1) Length = 42 cm width = 80 mm = 8cm — (1) Area = 42 x 8 336 cm^2 — (1)	(3)
4	Find the area of given triangle with base 6 cm and height 5 cm.  Area of triangle = $\frac{1}{2}$ x b x ht = $\frac{1}{2}$ x 6 x 5 — (1) $\frac{30}{2}$ = 15cm^2 — (1)	(2)
5	What unit would you use to measure the following: a) The distance from your school to Epping Station. Km — (1) b) The length of your mathematics book. cm — (1) c) The width of your small fingernail. mm — (1)	(3)

6 Find the area of the figure below **(4)**



Area of rectangle I
$= 9mm \times 5mm$
$= 45mm^2$ — (1)

Area of rectangle II
$= 3mm \times (9-5)mm$
$= 3 \times 4$
$= 12\ mm^2$ — (1)

Area of rectangle III
$= 7mm \times (13-8)mm$
$= 7 \times 5$
$= 35\ mm^2$ — (1)

Area of the figure $= 45mm^2 + 12mm^2 + 35mm^2$
$= 92mm^2$ — (1)

7* Kevin's livingroom floor measure 3.8 m by 2.5 m. He buys a rectangular carpet of length 30 cm and width 20 cm.

a) What is the area of Kevin's living room floor? **(2)**

$Area = L \times w = 3.8m \times 2.5m$ — (1)
$= 9.5m^2$ — (1)

b) What is the area of the carpet in square metres? **(2)**

Area of carpet $= 30cm \times 20cm$
$= 600cm^2$ — (1)
$= 0.06m^2$ — (1)

c) What is the number of rectangular carpets required to cover the entire floor ? **(1)**

$number = \frac{9.5}{0.06} = 158.33 = 159$ tiles

ALGEBRA (25)

1 Simplify

i. $5m - m =$ 4m — (1) **(1)**

ii. $2a + 3b + 3a - 5b =$ 2a + 3a + 3b - 5b → (1)

5a - 2b — (1) **(2)**

iii. $6x + 3x + x =$ 10x — (1) **(1)**

2 Write an expression for the followings: **(7)**

i. Sum of p and q.

p + q.

ii. Product of r and 12 added to 15.

12r + 15

iii. 85 divided by y.

85 ÷ y

iv. One-third of a number y.

$\frac{y}{3}$

v. 10 decreased by c.

10 - c

vi. The amount of money spent if you buy m ice creams for \$2 each.

$ 2m

vii. Square root of a number (n) added to 17.

$\sqrt{n} + 17$

3	If $x = 5, y = 2$ and $z = 4$. find a) $x + y + z =$ 5+2+4 — (1) = 11 — (1)	(2)
	b) $2x - y =$ 2(5) − 2 — (1) 10 − 2 = 8 — (1)	(2)
	c) $5z - y^2 =$ 5 x(4) − (9)^2 — (1) 20 − 4 = 16 — (1)	(2)
4	Expand and simplify the expressions: a) $5a(2a + 3b)$ 5a x 2a + 5a x 3b — (1) $10a^2 + 15ab$	(2)
	b) $2z + 4(3x + 10z)$ = 2z + 4x3x + 4x10z — (1) 2z + 12x + 40z — (1)	(2)
*	c) $(3p - 4p) - 2(q - 2p)$ 3p − 4p − 2q + 4p — (1) 3p − 2q — (1)	(2)

5.	Write the following expressions in expanded form :	(2)
	a) $5x+y$ Product of 5 and x added to y —1 b) $\frac{5mn}{2a}$ Product of 5, m and n divided by ~~2a~~ —1 Product of 2 and a	
	Decimals	(30)
1	How many decimal places are there in	(2)
	i. 15.062 ___3___	
	ii. 0.0462 ___4___	
2	A. Arrange in ascending order	(2)
	a) 0.7, 0.07, 0.05, 0.44, 0.007	
	B. Convert each decimal to a simplified fraction	
	a) 0.06	(2)
	1 — $\frac{063}{\cancel{100}\ 50} = \frac{3}{50}$ — 1	
	b) 27.25	(2)
	Method 1 $\frac{2725}{100}$ — 1 $\quad \frac{\cancel{2725}}{\cancel{100}} = \frac{545}{20} = \frac{109}{4}$ — 1	
	c) 0.0023	(1)
	$\frac{23}{10000}$ — 1	
	$= 25\frac{1}{4}$	
	method - 2 $27\frac{25}{100} \rightarrow 1$ $27\frac{1}{4}$ — (1)	

3	Evaluate 76.029 – 8.914 76.029 8.914 67.115 — (1) — (1)	(2)
4	A school bag has a total weight of 10 kg. If the books weigh 8.35 kg. What is the weight of the bag? Total weight = 10 kg book's weight = 8.35 kg weight of the bag = 10 kg − 8.35 kg — (1) = 1.65 kg — (1)	(2)
5	Simon earned $18.45 per hour. How much will he earn for 40 hour week. Earning per hour = $18.45 for 40 hrs = 18.45 × 40 — (1) = $738 — (1)	(2)
6	State if the given decimals are terminating or recurring. a) 0.33... recurring — (1) b) 0.540 Terminating — (1)	(2)
7	Sean bought these lengths of cables to complete a wiring job: 12.3 m, 7.98 m, 23.6 m and 13.65 m. a) How many meters of cable he used for the job? 12.3m + 7.98m + 23.6m + 13.65m — (1) 57.53 m — (1) b) If the shopkeeper had 100m of cable. How many meters of cable were left	(2) (2) (2)

	with the shopkeeper? Cable left = 100 m − 57.53 m — (1) 42.47 m — (1)	
8	Round off 10.337 to two decimal places. 10.34 — (1)	(1)
9	Lisa buys a pack of lolly for \$4.85 each and sells them for \$5.15 each. a) How much money did she make per packet? \$5.15 − \$4.85 — (1) + 30 cents = \$0.30 — (1) b) How much money does she make if she sells 30 packets? money = 30 × \$030 — (1) \$9.00 — (1)	(2) (2)
10*	I have \$20 to pay for petrol, the petrol costs \$ 0.65 per litre. a) What is the cost of filling 40 litres of petrol? Cost of 40 litres of petrol = \$0.65 × 40 = \$26 — (1) b) Do I have enough money to pay for 40 litres? No — (1) c) If not, how much money do I require? \$26 − \$20 \$6.00 — (1)	(2) (1)