Mental Maths Grade 8 **NO CALCULATORS** **TOTAL 80 Marks**

NAME: _____ Class: _____ Teacher:_____

1. Bonds **/9/**

1.1. 3 + 5 = ___ 1.2. 6 + 7 = ___ 1.3. 8 + 9 = ____

1.4. 11 + 12 = ____ 1.5. 37 + 58 = ___ 1.6. -17 + 12 = ___

1.7. 37 – 44 = ___ 1.8. -19 – 27 = ___ 1.9. -38 + 73 = ___

2. **Tables** **/9/**

2.1. 3 x 6 = ___ 2.2. 4 x 7 = ___ 2.3. 5 x 8 = ____

2.4. 7 x 8 = ___ 2.5. 6 x (-9) = ____ 2.6. -11(-3) = ____

2.7. (-12) x 8 = ____ 2.8. 11 x 12 = ____ 2.9. (-12) x (-13) = ___

3. **Simplify and compare the values using the symbols (>; <; or =)** **/10/**

3.1. -8 ÷ 2 ☐ -7 + 3 3.2. 6 + (-9) ☐ 1 x 4

3.3. 14 + 2 ☐ -8 x 5 3.4. ⅓ ☐ ¼

3.5. -8 x 2 ☐ -7 + (-9) 3.6. 4 x (-9) ☐ 11 + 2

3.7. 5 - 7 ☐ -10 ÷ 5 3.8. ⅚ ☐ ⅝

3.9. -19 + 8 ☐ 2 x 3 3.10. 20 ÷ 2 ☐ 14 – 4

4. **Rounding** **/4/**

Given the number 37 846,396 round to the nearest

4.1. Thousand = _____ 4.2. Hundred = _____

4.3. Tenth = _____ 4.4. Hundredth = _____

5. **Number Patterns** **/4/**

Give the next two numbers in the following number sequences'-

5.1. 15; 23; 31; ____; ____ (2)

5.2. 7; -8; -23; ____; ____ (2)

6. **Fractions** - Give all answers as fractions or mixed numbers in their simplest form. **/14/**

6.1. ½ + ⅓ (1)	6.2. ⅚ - ⅞ (2)	6.3. 5¼ - 2⅚ (3)
6.4. 12½ x 6⅔ (3)	6.5. 4¼ ÷ 6⅜ (3)	6.6. $\frac{12}{\frac{2}{3}}$ (2)

Question 7 **/8/**

The following minimum and maximum temperatures were recorded at 4 international cities on the 6th. January 2016. Answer the questions that follow.

Name of City	Minimum Temperature	Maximum Temperature
Cape Town	16°C	32°C
Moscow	-17°C	-2°C
La Paz	-13°C	15°C
Christchurch	8°C	22°C

7.1. Which city has the highest maximum temperature? _____ (1)

7.2. Which city has the lowest minimum temperature? _____ (1)

7.3. What is the range in temperature (difference between the maximum and minimum temperatures) from your answers in 7.1 and 7.2 above? _____ (2)

7.4. What is the temperature range in Moscow on Jan 6? _____ (2)

7.5. Which City has the greatest range in temperature? What is the range at this place – show all your working. _____ (2)

8. **Simplify** **/13/**

8.1. a + a + a =____ (1) 8.2. a x a x a x a =____ (1)

8.3. $2 \mid a \mid b \mid 3 \mid b \mid 4 \mid b \mid a \mid a \mid a \mid b \mid b$ = _____ (3)

8.4. $2 \times a \times b \times 3 \times b \times 4 \times b \times a \times a \times a \times b \times b$ = _____ (3)

8.5. $4 \times a \times b + 3 \times b \times a + 5 \times a \times b$ = _____ (2)

8.6. 2(3a + 4) – 3(a + 2) = _____

_____ (3)

9. **Exponents** **/9/**

9.1. What is the square of 9? _____ (1)

9.2. What is the square root of 9? _____ (1)

9.3. Any number to the power of zero equals _____. (1)

9.4. Complete the first two rules of exponents.

Multiplying powers with the same base we _____ the exponents. (1)

Dividing powers with the same base we _____. the exponents. (1)

9.5. Simplify - give all answers in exponential form.

9.5.1. $m^3 \times m^4$ = _____ (1) 5.5.2. $\frac{m^9}{m^4}$ = _____ (1)

9.6. Evaluate $\sqrt{64} - 5^2 - \sqrt[3]{-27}$ = _____ (2)

TOTAL 80