Year 8 · Number: Powers, Primes & Proportions

Name: _____ Date: _____

Kia ora! This sheet gives your brain a good workout across place value, powers, order of operations, fractions, percentages and ratios. Take your time, show your steps, and check that each answer looks reasonable.

Warm-up

1. Write 5.83 in expanded form using powers of 10.

2. Evaluate $\sqrt{64}$ and $\sqrt[3]{125}$.

3. Write 72 as a product of its prime factors, using exponents.

4. Calculate $-6 + 10$ and $4 + -9$.

Practice

5. Order these numbers from smallest to largest: −3.4, −3, 0.5, −0.5, 2.1.

6. Use the order of operations (GEMA) to evaluate $3 + 4 \times 2^2 - 5$.

7. Work out 2.3×45. Use estimation to check your answer is reasonable.

8. Multiply the fractions and give your answer in simplest form: $\frac{2}{3} \times \frac{3}{4}$.

9. A netball club in Avondale has 40 registered players. $\frac{3}{5}$ of them are juniors. How many juniors are there?

10. Mere and Tane share $56 from their lemonade stall in the ratio 3 : 5. How much does each person get?

Challenge

11. At Avondale Intermediate, 18 students in one Year 8 class walk or bike to school. This is 45% of the whole class. How many students are in the class altogether?

12. Evaluate $5 \times (-3) + 2^3 - \sqrt{49}$, using the order of operations.