Year 6 · Number: Fractions, Decimals & Percentages

Name: _____ Date: _____

Kia ora! This sheet gives you a workout on fractions, decimals and percentages, writing them, comparing them, and using them to solve real problems. Take your time and show your thinking.

Warm-up

1. Write 7/1000 as a decimal.

2. Write 0.4 as a fraction and as a percentage.

3. Simplify the fraction 6/8 to its lowest terms.

4. Work out 2.5 × 100.

Practice

5. Order these decimals from smallest to largest: 0.7, 0.07, 0.77, 0.707

6. Convert the improper fraction 17/5 to a mixed number.

7. Work out 3/4 + 5/8.

8. At the Avondale Sunday market, a stall starts with 180 apples. During the morning 2/3 of the apples are sold. How many apples are sold?

9. Mere is making a bracelet. She has finished 3/4 of the beads, which is 90 beads. How many beads will the whole bracelet have?

10. Work out 5.6 − 2.375.

Challenge

11. In Room 12, 3/5 of the 25 students walk to school. In Room 13, 60% of the 30 students walk to school. Which room has more students who walk, and by how many?

12. A school fundraiser has a goal. So far 20% of the goal has been raised, which is $84. What is the full goal (100%), and how much is 75% of the goal?

Answer key (for parents and tutors)

1. Write 7/1000 as a decimal.
   7/1000 means 7 thousandths. The thousandths place is the third place after the decimal point, so 7/1000 = 0.007.

2. Write 0.4 as a fraction and as a percentage.
   0.4 is 4 tenths = 4/10. As a percentage, 4/10 = 40/100 = 40%. So 0.4 = 4/10 = 40%.

3. Simplify the fraction 6/8 to its lowest terms.
   The common factor of 6 and 8 is 2. Divide both by 2: 6 ÷ 2 = 3 and 8 ÷ 2 = 4. So 6/8 = 3/4.

4. Work out 2.5 × 100.
   Multiplying by 100 moves each digit two places to the left, so the decimal point effectively shifts two places right: 2.5 × 100 = 250.

5. Order these decimals from smallest to largest: 0.7, 0.07, 0.77, 0.707
   Line up the place values (use trailing zeros): 0.700, 0.070, 0.770, 0.707. Compare tenths, then hundredths, then thousandths. Smallest is 0.070, then 0.700, then 0.707, then 0.770. Answer: 0.07, 0.7, 0.707, 0.77.

6. Convert the improper fraction 17/5 to a mixed number.
   Divide 17 by 5: 17 ÷ 5 = 3 remainder 2. The 3 is the whole number and the remainder 2 is over 5. So 17/5 = 3 2/5.

7. Work out 3/4 + 5/8.
   8 is a multiple of 4, so make the denominators the same. 3/4 = 6/8. Then 6/8 + 5/8 = 11/8. As a mixed number, 11 ÷ 8 = 1 remainder 3, so the answer is 1 3/8.

8. At the Avondale Sunday market, a stall starts with 180 apples. During the morning 2/3 of the apples are sold. How many apples are sold?
   First find 1/3 of 180: 180 ÷ 3 = 60. Then 2/3 is two of those parts: 60 × 2 = 120. So 120 apples are sold.

9. Mere is making a bracelet. She has finished 3/4 of the beads, which is 90 beads. How many beads will the whole bracelet have?
   If 3/4 is 90 beads, then 1/4 is 90 ÷ 3 = 30 beads. The whole bracelet is 4 quarters: 30 × 4 = 120 beads.

10. Work out 5.6 – 2.375.
    Write 5.6 as 5.600 so both numbers have three decimal places. Subtract: 5.600 – 2.375. Thousandths: 0 – 5 needs borrowing. Working it out gives 3.225. So 5.6 – 2.375 = 3.225.

11. In Room 12, 3/5 of the 25 students walk to school. In Room 13, 60% of the 30 students walk to school. Which room has more students who walk, and by how many?
    Room 12: 1/5 of 25 = 25 ÷ 5 = 5, so 3/5 = 5 × 3 = 15 walkers. Room 13: 10% of 30 = 3, so 60% = 3 × 6 = 18 walkers. Room 13 has more walkers, by 18 – 15 = 3 students. (Notice 3/5 and 60% are equal as fractions of the whole, but the wholes are different sizes.)

12. A school fundraiser has a goal. So far 20% of the goal has been raised, which is $84. What is the full goal (100%), and how much is 75% of the goal?
    If 20% is $84, then 1% is $84 ÷ 20 = $4.20. The full goal is 100% = $4.20 × 100 = $420. For 75%: 75 × $4.20 = $315 (or three-quarters of $420 = $315). So the goal is $420 and 75% is $315.