UNIT 6 Number System   Mental Tests

Test 6.1 *(no calculator)*

1. Write $\dfrac{7}{100}$ as a decimal.   (0.07)

2. Write 0.99 as a fraction. $\left(\dfrac{99}{100}\right)$

3. $10.5 - 5.2$ (5.3)

4. $8.5 + 3.8$ (12.3)

5. $8.5 - 3.8$ (4.7)

6. Write down a 2-digit decimal between 0.87 and 0.89.   (0.88)

7. How much is left if 3 shelves,each of length 1.4 metres, are cut from a plank of length 5 metres?   (0.8 m)

8. 4.932×100 (493.2)

9. $26.87 \div 100$ (0.268 7)

10. What is 5.087 correct to 1 d.p.?   (5.1)

Test 6.2 *(no calculator)*

1. Write $\dfrac{51}{100}$ as a decimal.   (0.51)

2. Write 0.03 as a fraction. $\left(\dfrac{3}{100}\right)$

3. $12.7 - 8.2$ (4.5)

4. $7.7 + 3.5$ (11.2)

5. $9.5 - 3.8$ (5.7)

6. Write down a 3-digit decimal between 0.52 and 0.53   (0.52n)

7. Four lengths of cloth, each of length 2.3 metres are cut from a roll of length 15 metres. What length is left on the roll?   (5.8 m)

8. 22.47×100 (2 247)

9. $7.49 \div 10$ (0.749)

10. What is 76.962 correct to 1 d.p.?   (77.0)

Test 6.3 *(no calculator)*

1. Write 10.974 to 3 s.f.   (11.0)

2. Write $\dfrac{4}{5}$ as a decimal.   (0.8)

3. What is the decimal equivalent of $\dfrac{1}{8}$?   (0.125)

4. What is an approximate value of 0.41×5.12?   (2)

5. What is an approximate value of $6.23 \times \sqrt{2}$?   (9)

6. What is 21×36?   (756)

7. What is an approximate value of $5.9 \times 4.2 \times 2.95$?   (72)

8. What is the exact value of $5 + (2 \times 5.5) - 9.5$?   (6.5)

9. Write three quarters as a percentage.   (75%)

10. What is an approximate value of $\dfrac{21.2 \times 29.1}{40.1}$?   (15)

UNIT 6 Number System

Mental Tests

Test 6.4 *(calculators allowed)*

1. If a length is measured as 46 mm, to the nearest mm, what is its minimum possible length? (45.5 mm)

2. A boy is weighed as 78 kg, to the nearest kg. What is his maximum possible weight? (78.5 kg)

3. Is $2\pi^2$ a rational or irrational number? (irrational)

4. Is $2 + \sqrt{5}$ a rational or irrational number? (irrational)

5. If a and b are irrational numbers, what can you say about the number $a \times b$?

   (could be rational or irrational)

6. If $a = 1 + \sqrt{2}$, find a different number, b, so that $a - b$ is a rational number. $(2 + \sqrt{2}$ etc)

7. If a is an irrational number, and b is a rational number, what can you say about the number $a + b$? (irrational)

8. Find an irrational number between 9 and 10. $(3\pi$ etc)

9. A field is measured as 25 metres by 40 metres to the nearest metre. What is the minimum possible area of the field? (967.75 m^2)

10. A rectangle has an area of 59 cm^2, to the nearest cm^2. If one side measures 4.6 cm to the nearest mm, what is the maximum possible second length? (13.1 cm)