

UNIT
3

Decimals

Revision Notes

1. **Decimals** are another way of expressing fractions.
2. Fractions can be **converted** to decimals by long division.
3. **Recurring decimals** are decimals that have digits which keep repeating themselves in a pattern.
E.g. $0.535353\dots$ can be written as $0.\dot{5}\dot{3}$.
 $1.33333\dots$ can be written as $1.\dot{3}$.
4. When **multiplying decimals**, the number of decimal places in the product is equal to the sum of the numbers of decimal places in the original decimals.
5. To **divide** a number by a decimal, rewrite the division by multiplying the powers of 10 so that the divisor becomes a whole number.

Revision Exercise 3

1. State the place value of the digit 3 in each of the following decimals.

(a) 301.89

(b) 0.035

(c) 5.321

2. Write the correct sign, '>', '<' or '=' in each box.

(a) 53.2 53.3

(b) 36.21 36.210

(c) 11.11 11.011

(d) 13.24 1.324

3. Arrange the following decimals in descending order.

0.123, 0.1123, 0.1231, 0.1132, 0.132

4. Arrange the following decimals in order, beginning with the smallest.

8.89, 8.98, 8.99, 8.889, 8.899

5. Convert the following fractions to decimals.

(a) $\frac{1}{4}$

(b) $\frac{3}{8}$

(c) $\frac{53}{100}$

(d) $1\frac{1}{20}$

(e) $\frac{45}{20}$

(f) $16\frac{5}{16}$

6. Express the following decimals as fractions in their simplest form.

(a) 0.15

(b) 1.36

(c) 4.2

(d) 0.0032

(e) 5.825

(f) 6.500

7. Arrange the following numbers on a number line.

0.511 , $\frac{1}{2}$, 0.501 , 0.51 , $\frac{26}{50}$

8. Express the following fractions as recurring decimals.

(a) $\frac{1}{3}$

(b) $\frac{5}{11}$

(c) $\frac{8}{9}$

9. Rewrite the following recurring decimals using the dot representation.

(a) $0.0454545 \dots$

(b) $0.011111 \dots$

(c) $1.989898 \dots$

10. Evaluate the following.

(a) $4.5 + 12.8$

(b) $3.19 + 10.47 + 5.28$

(c) $9.11 - 7.85$

(d) $20.12 - 5.38 - 12.03$

(e) $13.18 + 7.87 - 10.29$

(f) $62.13 - 50.77 + 20.54$

11. Evaluate the following.

(a) 4.3×12

(b) 0.7×0.5

(c) $2.22 \div 0.4$

(d) $62.5 \div 50$

(e) $20 \times 0.55 \times 2.5$

(f) $77 \div 0.7 \div 0.11$

12. Find the sum of 100.1, 10.01 and 1.001.

13. Find the difference between the sum of 53.8 and 38.5 and the product of 100 and 0.362.

14. Divide the product of 2.9 and 9.2 by 0.01.

15. What number must be added to the sum of 43.89 and 89.34 to get 200?

16. Evaluate the following

(a) $(2.55 + 3.65) \div 0.5$

(b) $3.03 + 30.33 \div 3$

(c) $20.1 \times (1.2 - 0.7)$

(d) $(3.8 + 4.5) \times (2 - 0.9)$

(e) $[3 \times (4.7 - 2.8)] \div 100$

17. A tank contains 50 l of water. Water flows out of the tank through a hole at a rate of 0.8 l per minute. How much water is left in the tank after 40 minutes?

18. Mrs Chua bought 1.35 kg of mutton at \$12 per kg. How much did she spend?

19. Mr Ahmad bought 0.65 kg of grapes, 1.36 kg of apples and 0.98 kg of oranges. What was the total mass of the fruits he bought?

20. May has a 12-metre long ribbon. She cuts it into pieces, each measuring 0.45 m.
- (a) How many pieces of the ribbon can she get?
 - (b) How much ribbon is left?