

Topic Check In - 2.02 Decimal fractions

Do not use a calculator.

Calculate the following, showing all your working.

1. $12.3 + 2.87$
2. $21.3 - 3.52$
3. 5.4×2.8
4. $26.28 \div 4$
5. 4×-0.6
6. Explain why $\frac{11}{20} > 0.505$.
7. Explain why 0.5^2 does not equal 2.5.
8. Sharon states that “multiplication makes numbers bigger”. Give an example to demonstrate that this statement is false.
9. Marta spends £10 on fruit. £2.50 of this was spent on bananas. What proportion of the amount was spent on bananas? Give your answer as a decimal.
10. Leo buys 3 pens costing 35p each, a ruler costing 96p and a box of coloured pencils costing £4.50. He pays with a £10 note. How much change should he receive?

Extension

Which fractions give terminating decimals?

Explain a rule for identifying fractions that will give a terminating decimal by considering the decimal equivalents of the following unit fractions.

$$\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{1}{7}, \frac{1}{8}, \frac{1}{9}, \frac{1}{10} \dots \text{etc}$$



GCSE (9–1) MATHEMATICS

Answers

1. 15.17
2. 17.78
3. 15.12
4. 6.57
5. -2.4
6. $\frac{11}{20}$ is equal to 0.55 which is greater than 0.505.
7. $0.5^2 = 0.25$. The decimal point has been placed in the wrong position.
8. Examples: 3×-2 20×0.1
9. $\frac{1}{4} = 0.25$
10. £3.49

Extension

Denominators with only 2 and 5 as prime factors give terminating decimal equivalents.



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Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Adding decimals.			
AO1	2	Subtracting decimals.			
AO1	3	Multiplying decimals.			
AO1	4	Dividing a decimal value by an integer.			
AO1	5	Multiplying by a negative decimal number.			
AO2	6	Converting fractions to terminating decimals to compare size.			
AO2	7	Explain clearly the correct positioning of the decimal point in multiplication.			
AO2	8	Applying multiplicative reasoning.			
AO3	9	Express proportionality as a decimal.			
AO3	10	Solve money problems in pounds and pence.			

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