

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.



We'd like to know your view on the resources we produce. By clicking on the 'Like' or 'Dislike' button you can help us to ensure that our resources work for you. When the email template pops up please add additional comments if you wish and then just click 'Send'. Thank you.

If you do not currently offer this OCR qualification but would like to do so, please complete the Expression of Interest Form which can be found here: www.ocr.org.uk/expression-of-interest

OCR Resources: *the small print*

OCR's resources are provided to support the teaching of OCR specifications, but in no way constitute an endorsed teaching method that is required by the Board, and the decision to use them lies with the individual teacher. Whilst every effort is made to ensure the accuracy of the content, OCR cannot be held responsible for any errors or omissions within these resources. We update our resources on a regular basis, so please check the OCR website to ensure you have the most up to date version.

© OCR 2015 - This resource may be freely copied and distributed, as long as the OCR logo and this message remain intact and OCR is acknowledged as the originator of this work.

OCR acknowledges the use of the following content: Maths and English icons: AirOne/Shutterstock.com. Thumbs up and down icons: alexwhite/Shutterstock.com

Please get in touch if you want to discuss the accessibility of resources we offer to support delivery of our qualifications: resources.feedback@ocr.org.uk



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.			

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.			

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.			

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.			

