

Oxford Revise | AQA GCSE Maths Foundation | Answers

Chapter 5 Percentages

Question	Answer	Extra information	Marks
5.1 (a)	$0.30 \times 220 = 66$	Method or equivalent Correct answer	1 1
5.1 (b)	54% of 50 = 50% of 54 = $54 \div 2 = 27$ or 50% of 50 = 25, 4% of 50 = 2, $25 + 2 = 27$	Method or equivalent Correct answer	1 1
5.1 (c)	$0.27 \times 720 = 194.4$	Method or equivalent Correct answer	1 1
5.1 (d)	$0.105 \times 18 = 1.89$	Method or equivalent Correct answer	1 1
5.2	10% of 2460 is 246 Half of this (5%) is 123 Add them together to get £369	Correct calculation Correct answer	1 1
5.3	$90 \times 1.1 = 99$ $\frac{8}{7} \times 84 = 8 \times 12 = 96$ $99 > 96$, so 110% of 90 is larger	110% of 90 = 99 $\frac{8}{7}$ of 84 = 96 Correct conclusion	1 1 1
5.4	3% of 50 000 = $50\,000 \div 100 \times 3 = 1500$ New value = $50\,000 + 1500 = 51\,500$	$50\,000 \div 100 \times 3$ or equivalent Correct answer	1 1

Question	Answer	Extra information	Marks
5.5	Decrease = $4 - 2.5 = 1.5$ litres	$\frac{4 - 2.5}{4} \times 100\%$	1
	% decrease = $\frac{1.5}{4} \times 100\% = 37.5\%$	Correct answer	1
5.6	Side lengths are 4 cm and 5 cm respectively	Getting 4 cm and 5 cm side lengths	1
	% increase = $\frac{5 - 4}{4} \times 100\% = 25\%$	$\frac{5 - 4}{4} \times 100\%$	1
		Correct answer	1
5.7	Total score for Maths = 280	280	1
	85% of 280 = 238	Find 85% of 280 (or find 15% of 280 and subtract)	1
	Missing score = $238 - (58 + 58 + 57) = 65$	Subtract 173	1
		Correct answer	1
5.8 (a)	Increase in age = 2 years	$\frac{12 - 10}{10} \times 100\%$	1
	% increase = $\frac{2}{10} \times 100\% = 20\%$	Correct answer	1
5.8 (b)	120% of 20 = 24 kg	Finding mass at age 12	1
	$x = 24$ kg	Correct answer	1
5.9	40%		1
5.10 (a)	Multiplier for 10% increase = 1.1	Correct multiplier	1
	New value = $50 \times 1.1 = 55$	Correct answer	1
5.10 (b)	Multiplier for 55% decrease is 0.45	Correct multiplier	1
	$40 \times 0.45 = 18$	Correct answer	1

Question	Answer	Extra information	Marks
5.11	Multiplier for 7% decrease is 0.93	Correct multiplier	1
	$90 \times 0.93 = 83.7$ mph	Correct answer	1
5.12 (a)	Simple interest each year is 6% of 2450	Correct method to find 6% of 2450	1
	$2450 \times 0.06 = 147$	Multiplying answer above by 2	1
	So simple interest for 2 years = $2 \times 147 = \text{£}294$	Correct answer	1
5.12 (b)	Multiplier for compound interest is 1.06 each year	Correct multiplier	1
	First year = $2450 \times 1.06 = 2597$	Multiplying 2450 by 1.06 twice, or by 1.06^2	1
	Second year = $2597 \times 1.06 = \text{£}2752.82$	Correct answer	1
	Interest = $\text{£}2752.82 - \text{£}2450 = \text{£}302.82$		
5.13	Multiplier for 4% decrease is 0.96	Correct multiplier	1
	First year = $3\,000\,000 \times 0.96 = 2\,880\,000$	At least one step of multiplying a population by 0.96, or for multiplying by 0.96^2	1
	Second year = $2\,880\,000 \times 0.96 = 2\,764\,800$	Correct answer	1
5.14	30% reduction means the multiplier on the original price was 0.7	Divide by 0.7	1
	$0.7 \times \text{original price} = 28$	Correct answer	1
	original price = $28 \div 0.7 = \text{£}40$		

Question	Answer	Extra information	Marks
5.15	15% increase means the multiplier on the distance ran yesterday was 1.15	Divide by 1.15	1
	$1.15 \times \text{yesterday's distance} = 23$	Correct answer	1
	yesterday's distance = $23 \div 1.15 = 20$ miles		
5.16	$120\% = 1.20$	1.20 or 1.2	1
	If the cost before VAT is £ x , then $1.2x = 92.40$	Divide by 1.20	1
	$x = 92.40 \div 1.20 = \text{£}77$	Correct answer	1
5.17	$89\% = 0.89$	0.89	1
	If original mass was y g, then $0.89y = 44.5$	Divide by 0.89	1
	$y = 44.5 \div 0.89 = 50$ grams	Correct answer	1
5.18	$120\% = 1.20$ and $80\% = 0.80$	1.20 or 0.80	1
	Let the original number be x .	Multiply by 1.20 or 0.80	1
	20% increase gives $1.20x$	Complete and correct explanation	1
	20% decrease gives $1.20x \times 0.8 = 0.96x$		
5.19 (a)	$0.96x < x$, so Ben is wrong.		
	$\frac{3}{7} \times \frac{5}{6} = \frac{15}{42} = \frac{5}{14}$	$\frac{15}{42}$ or for cancelling to get $\frac{1}{7} \times \frac{5}{2}$	1
		$\frac{5}{14}$	1

Question	Answer	Extra information	Marks
5.19 (b)	$\frac{2}{5} \div \frac{3}{10} = \frac{2}{5} \times \frac{10}{3} = \frac{20}{15} = \frac{4}{3} \left(= 1\frac{1}{3} \right)$	Inverting $\frac{3}{10}$ and multiplying	1
		Unsimplified answer	1
		Completely simplified, correct answer	1
5.20	Correctly drawn prime factor tree, showing the factors $2^4 \times 3^2$	Factor tree drawn	1
		$2 \times 2 \times 2 \times 2 \times 3 \times 3$	1
		$2^4 \times 3^2$	1