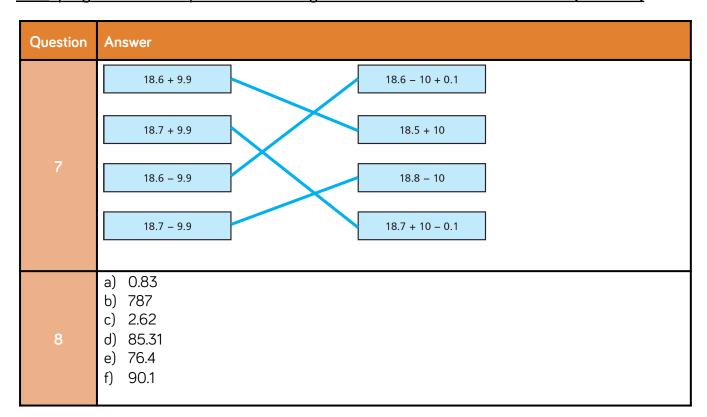
Y7 - Spring - Block 1 - Step 1 - Properties of addition and subtraction Answers

Question	Answer
	23 + 35 = 58 3 58 + 35 = 23 5 58 = 35 + 23 3
1	23 - 35 = 58
2	32 + 59 = 91 59 + 32 = 91 91 - 32 = 59 91 - 59 = 32
3	74 + 56 = 130 $56 + 74 = 130$ $130 - 74 = 56$ $130 - 56 = 74$
4	139 + 62 = 201 $62 + 139 = 201$ $201 - 62 = 139$ $201 - 139 = 62$
5	114 56 58 58 58 58 58
6	83 = 36 + 30 + 17
7	The numbers can be written in either order. 40 + 26 = 26 + 40
8	Subtraction is not commutative. The order of the numbers matters.
9	 a) Nijah spotted a number bond to 100, so the calculation was easier because 57 + 43 = 100 b) 6 + 4 + 9 + 1 + 2 38 + 62 + 27 26 + 74 + 31 + 29
10	y + z = x $z + y = x$ $x - y = z$ $x - z = y$
11	use of concrete resources to show the statements are true

Question	Answer
1	a) 40 + 90 + 6 + 9
2	364 + 297 = 364 + 297 + 3 - 3 = 364 - 3 + 297 + 3 = 361 + 300 = 661 a) 126 b) 991 c) 1,707 d) 432 e) 861 f) 5,753
3	a) 744 b) 615 c) 652 d) 6,511
4	$-1 \qquad -100$ $702 \qquad 703 \qquad 704 \qquad 803$ $+1 \qquad -99$ Students' diagrams may differ, but must show that $803 - 99 = 803 - 100 + 1$
5	a) $180 - 42 = 138$ 180 - 58 = 122 180 - 131 = 49 b) $360 - 35 = 325$ 360 - 147 = 213 360 - 228 = 132 c) They are used a lot in calculating angles.
6	a) 17.3 + 9 + 0.9 17.3 + 10 - 0.1 17.2 + 10 b) Students need to justify which method they prefer.

<u>Y7 - Spring - Block 1 - Step 2 - Mental strategies for addition and subtraction Answers (continued)</u>



Y7 - Spring - Block 1 - Step 3 - Use formal methods for addition of integers Answers

Question	Answer								
1	a) 45 + 37 b) 10 ones for 1 ten c) 4 5 + 3 7 8 2								
2	a) 778 b) 783 c) 823								
3	a) 5,933 b) 3,923 c) 7,000								
4	a) 8,766 b) 8,255								
5	a) 5,791 b) 6,151 c) 27,452								
6	a) 9,384 b) 6,918 c) 10,400								
7	a) 430,000 500,000 2,025,000 64,354 b) 3,019,354 c) seven million, nineteen thousand, three hundred and fifty-four 7,019,354								
8	a) 4,831 b) 3,895 c) 8,726								
9	multiple possible answers There are many ways of making 999, e.g.: 1 5 2 3 7 8 + 4 6 9 9 9 9 1 1								

Y7 - Spring - Block 1 - Step 4 - Use formal methods for addition of decimals Answers

Question	Answer
	0.3 + 0.4 = 0.7
1	1.3 + 1.7 = 2.10
2	a) 8.8 b) 9.0 c) 9.4 d) 70.5
	0.03 + 0.04 = 0.07
3	0.99 + 0.1 = 0.109 $0.99 + 0.1 = 1.09$ $0.2 + 0.3 + 0.41 = 0.91$
4	a) 8.76 b) 6.04 c) 80.11 d) 20.00
5	Students may discuss the importance of aligning the columns and whether it is necessary to add a zero in the tenths column after the 7
6	a) 49.9 b) 53.4 c) 92.2 d) 74.96 e) 38.68 f) 32.5
7	a) 9.24 b) 44.4 c) 38.84 d) 41.02 e) 13.26 f) 50.26

Y7 - Spring - Block 1 - Step 4 - Use formal methods for addition of decimals Answers (continued)

Question	Answer
8	tea and sandwich £5.08 coffee and cake £4.29 soup, tea and coffee £7.38 sandwich, cake and coffee £7.78
9	a) 1.92 b) 2.42 c) 2.47 d) 2.94

<u>Y7 - Spring - Block 1 - Step 5 - Use formal methods for subtraction of integers Answers</u>

Question	Answer									
1	a) 56 - 32 = 24 56 - 39 = 17 56 - 39 was more difficult because we need to exchange 1 ten for 10 ones. b) 5 6 45 16 - 3 9 17 c) Both methods involve exchanging 1 ten for 10 ones. In part a), the tens counter is replaced with 10 ones counters. In part b), this exchange is written on the calculation.									
2	a) 461 b) 317 c) 346 d) 434 e) 389 f) 384									
3	a) 1,108 b) 3,376 c) 1,628 d) 2,095									
4	a) 6,142 b) 3,937 c) 4,342 d) 5,189									
5	a) 2,259 b) 1,679									
6	 a) Sixty-eight thousand, three hundred and two thousand, half a million, 650,000, 2,700,000 b) half a million c) 2,632,000 									
7	a) 222 b) 2,131									
8	a) $a = 36$ b) $b = 90$ c) $d = 194$ d) $e = 824$									

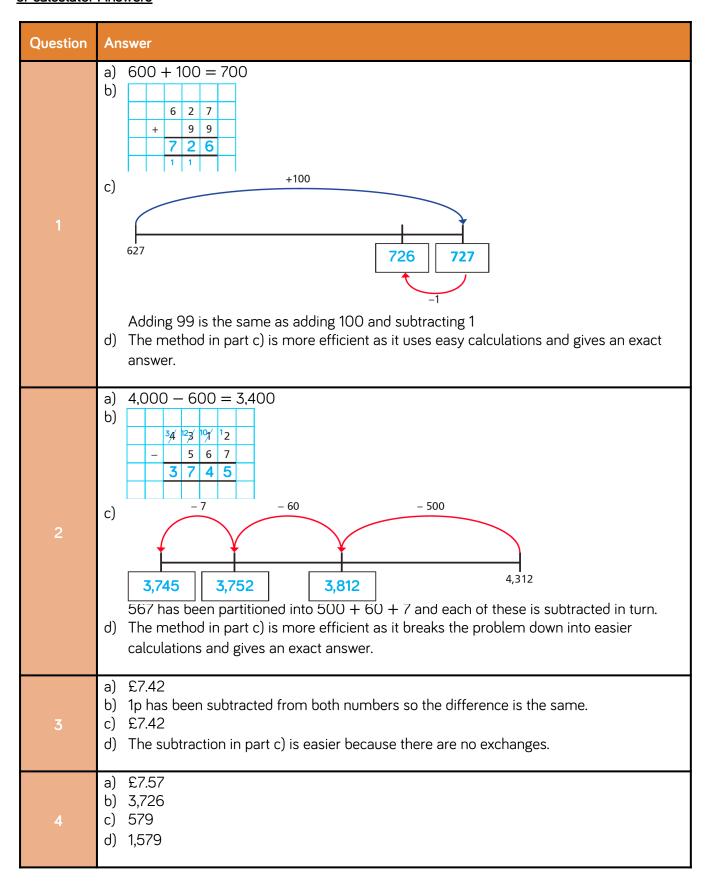
<u>Y7 - Spring - Block 1 - Step 6 - Use formal methods for subtraction of decimals Answers</u>

Question	Answer
1	a) 2.7 b) 2.0 c) 5.35
2	8 8 8 0 8 8 - 2 · 7 - 2 · 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3	 a) He has worked out the difference between the two digits in each column instead of subtracting the second digit from the first digit. b) 23 15 4
4	a) 27.3 b) 23.8 c) 28.9 d) 10.93 e) 22.2 f) 21.61
5	Kim should received £7.11 change.
6	a) 2.44 b) 1.76 c) 23.6 d) 21.16 e) 0.68 f) 29.44
7	a) 1.37 b) 0.88 c) 1.42 d) 0.92 e) 1.07 f) 0.94

Y7 - Spring - Block 1 - Step 6 - Use formal methods for subtraction of decimals Answers (continued)

Question	Answer
8	a) $a = 52.3$ b) $b = 7.1$ c) $c = 5.02$ d) $d = 1.85$ e) $e = 8.95$ f) $f = 4.64$
9	 a) Alex's height = 1.36 m Tom's height = 1.64 m Aisha's height = 1.09 m b) 0.55 m

<u>Y7 - Spring - Block 1 - Step 7 - Choose the most appropriate method - mental strategies, formal written or calculator Answers</u>



Y7 - Spring - Block 1 - Step 7 - Choose the most appropriate method - mental strategies, formal written or calculator Answers (continued)

Question	Answer
5	 a) 8 million b) 5 billion c) 147 thousand d) 200 million We can ignore the word part of each number because they are the same within each calculation. So we work out the calculation using only the number parts and then include the word part in the answer.
6	The number after the colon is the number of minutes, not a decimal. There are 60 minutes in an hour, not 100
7	a) 37 minutes b) 37 minutes c) 39 minutes d) 2 hours 39 minutes
œ	Students may choose different methods. a) £6.53 b) £1,298 c) 151,392

<u>Y7 - Spring - Block 1 - Step 8 - Solve problems in the context of perimeter Answers</u>

Question	Answer
1	a) 26.5 cm b) 23.7 cm c) 22.2 cm d) 30.2 cm
2	possible rectangles: 1 cm by 11 cm 2 cm by 10 cm 3 cm by 9 cm 4 cm by 8 cm 5 cm by 7 cm 6 cm by 6 cm The two sides must sum to 12 cm.
3	a) $a = 5 \text{ cm}$ b) $b = 6 \text{ cm}$ c) $c = 4 \text{ cm}$ d) $d = 2.5 \text{ cm}$
4	a) 70 cm b) 8 cm
5	6.3 cm, 2.5 cm
6	a) 9 cm 5 cm 4 cm b) 34 cm c) They are all right angles.

<u>Y7 - Spring - Block 1 - Step 9 - Solve financial maths problems Answers</u>

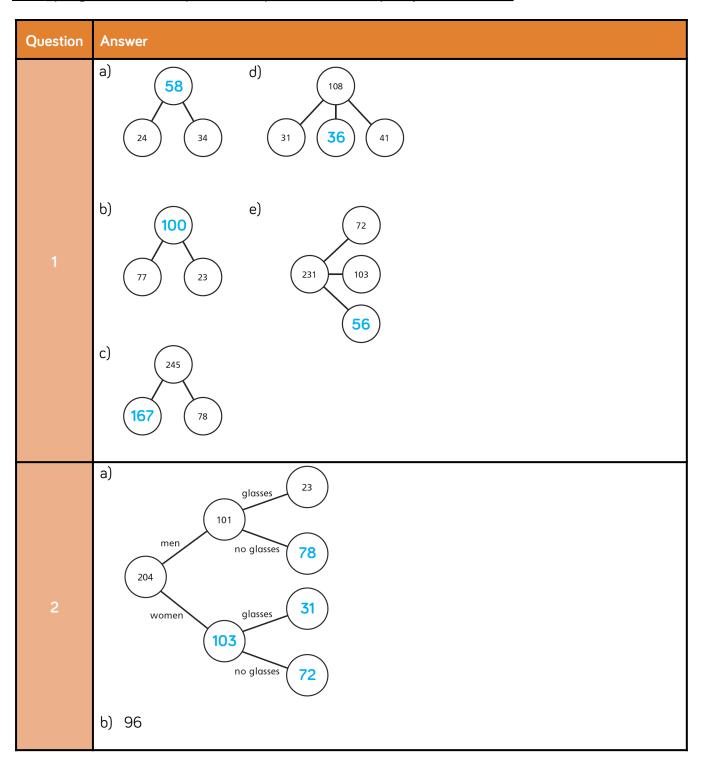
Question	Answer								
1	Brett saves £4.01 a week.								
2	Whitney sold the tablet for £75								
3	Dani makes £1.25 profit.								
4	a) The balance was £197.32 b) £27.95 c) £212.85 d) £246.71								
5	a) £654.11 b) £850.00 c) £79.99 d) £315.96								
6	 a) The total cost is £3.28 b) Tommy should receive £6.72 change. 								
7	Mrs Dean needs £270								
8	Filip needs €699.65								

Question	Answer										
1	a) 5 b) 4 c) Wednesday d) Saturday										
2	 a) Aberdeen and Dover b) Bristol and Exeter c) Cambridge and Exeter d) 84 miles e) 107 miles f) 717 miles 										
3	Junction 17 3 9 13.5 30.5	Junction 6 10.5 27.5	Junctio 4.5 21.8	5	Junction 20	Ju	nction 21				
4	a) Itali Indi Chin Oth No pref Tot	ese erence	Boys 27 31 27 18 48 151		Girls 18 40 23 26 62 169		Total 45 71 50 44 110 320				
5	Prefer cats Prefer dog Total First we need values.	S	Men 22 24 46 out the mis		Women 31 23 54 number in a	row	Total 53 47 100 or column	that	already h	as two	
6	a) 3 b) 39 minutes c) 07:22										

Y7 - Spring - Block 1 - Step 10 - Solve problems involving tables and timetables Answers (continued)

Question	Answer						
7		Ç					
	Aberford	08:30	11:00	13:10	14:36		
	Cartown	08:52	11:22	13:32	14:58		
	Donville	09:07	11:37	13:47	15:13		
	Highborough	09:21	11:51	14:01	15:27		
	Southland	09:57	12:27	14:37	16:03		

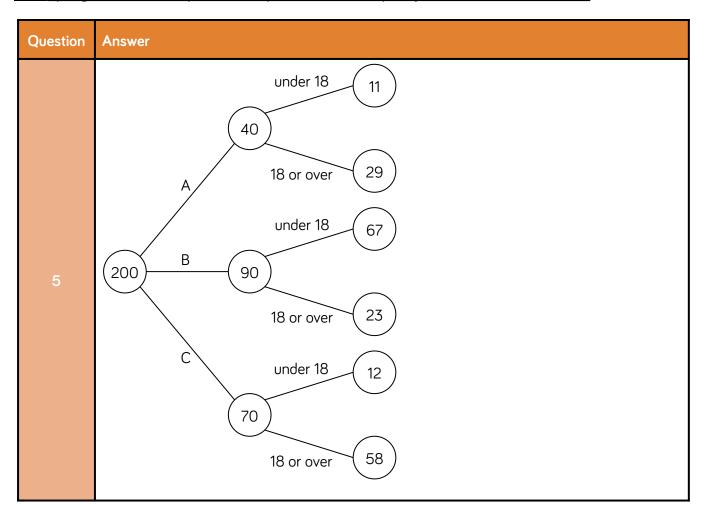
<u>Y7 - Spring - Block 1 - Step 11 - Solve problems with frequency trees Answers</u>



<u>Y7 - Spring - Block 1 - Step 11 - Solve problems with frequency trees Answers (continued)</u>

Question	Answer
3	boys dislike 15 Sike 17 17 17 17 17 17 17 1
4	under 15 13 57 15 or over 44 under 15 17 women 43 15 or over 26

Y7 - Spring - Block 1 - Step 11 - Solve problems with frequency trees Answers (continued)



Question	Answer					
1	a) 32 b) 7 c) 4 d) 51					
2	 a) 74 b) 202 c) 55 d) Scott has consistently improved in English and Maths. His improvement in Maths is greater than his improvement in English. His Science score was decreasing, but improved in December. 					
3	a) 8 b) £17 c) November and December £206 e) 90 85 80 75 60 60 65 65 60 Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec					
4	 a) No. The temperature will not necessarily increase at a constant rate. b) 3 c) 15 °F d) midday and 1 pm e) probably summer, since it is warm all day 					

Question	Answer					
1	3,000 3 × 10 ⁴ 0.0003 3 × 10 ⁻⁴ 30 3 × 10 ⁻³ 30,000 3 × 10 ⁻²					
2	a) $3 \times 10^5 + 4 \times 10^5 = 300,000 + 400,000 = 700,000 \neq 7 \times 10^{10}$ 7×10^5 b) 7×10^6 7×10^8 7×10^{17} 9×10^{-3}					
3	a) $3 \times 10^5 + 7 \times 10^5 = 300,000 + 700,000 = 1,000,000 = 1 \times 10^6$ b) $3 + 7 = 10$, so the index needs to increase by 1 for the number part of standard form to be less than 10 c) $3 \times 10^6 + 7 \times 10^6 = 1 \times 10^7$ $6 \times 10^8 + 4 \times 10^8 = 1 \times 10^9$ $5 \times 10^5 + 5 \times 10^5 = 1 \times 10^6$ $7 \times 10^{-2} + 3 \times 10^{-2} = 1 \times 10^{-1}$ $5 \times 10^{-4} + 5 \times 10^{-4} = 1 \times 10^{-3}$					
4	a) 870,000 1,500,000 7,800,000 793,000 799,300 c) 0.78 0.15 0.087 d) 0.73 0.0793 0.07993					
5	a) 600,000,000 km b) 520,000,000 km c) 630,000,000 km d) 1,930,000,000 km					