	Number Patterns E3 Mark Scheme	
1(a)	The sequence is increasing. $4-1=3$, so the rule is $+3$	[1]
1(b)	The sequence is decreasing. $15 - 13 = 2$, so the rule is -2	[1]
1(c)	The sequence is increasing. $61 - 55 = 6$, so the rule is $+6$	[1]
1(d)	The sequence is decreasing. $180 - 175 = -5$, so the rule is -5	[1]
2(a)	The sequence is increasing. $2.6 - 2.2 = 0.4$, so the rule is $+0.4$	[1]
2(b)	The sequence is increasing. $0.4 - 0.1 = 0.3$, so the rule is $+0.3$	[1]
2(c)	The sequence is decreasing. $6.5 - 5.7 = 0.9$, so the rule is -0.9	[1]
2(d)	The sequence is decreasing. $9.9 - 9.7 = 0.2$, so the rule is -0.2	[1]
3(a)	The sequence is increasing. $6-3=3$, so the rule is $+3$	[1]
	12 + 3 = 15, so 15 is the next term in the sequence	[1]
3(b)	The sequence is increasing. $18 - 13 = 5$, so the rule is $+5$	[1]
	28 + 5 = 33, so 33 is the next term in the sequence	[1]
3(c)	The sequence is decreasing. $19 - 15 = 4$, so the rule is -4	[1]
	7-4=3, so 3 is the next term in the sequence	[1]
3(d)	The sequence is decreasing. $120 - 114 = 6$, so the rule is -6	[1]
	102 - 6 = 96, so 96 is the next term in the sequence	[1]
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4(a)	The sequence is decreasing. 11.2 - 11.0 = 0.2, so the rule is -0.2	[1]
	10.6 - 0.2 = 10.4, so 10.4 is the next term in the sequence	[1]
4(b)	The sequence is increasing. $4.0 - 3.3 = 0.7$, so the rule is $+0.7$	[1]
	5.4 + 0.7 = 6.1, so 6.1 is the next term in the sequence	[1]

4(c) The sequence is increasing. 2.3 – 1.2 = 1.1, so the rule is +1.1 [1] 4.5 + 1.1 = 5.6, so 5.6 is the next term in the sequence [1] 4(d) The sequence is decreasing. 0.9 – 0.7 = 0.2, so the rule is -0.2 [1] 0.3 – 0.2 = 0.1, so 0.1 is the next term in the sequence [1] 5(a) 180 – 145 = 35, so John removes 35 balls each minute [1] 5(b) The sequence is decreasing, and the rule is -35 75 - 35 = 40, so there will be 40 balls remaining in the box [1] 6 The sequence is increasing. 27 - 23 = 4, so the rule is +4 [1] 35 + 4 = 39, so she will have 39 stamps in May [1] 7(a) The sequence is decreasing. 91.2 - 87.8 = 3.4, so the rule is -3.4 kg [1] 7(b) 81.0 - 3.4 = 77.6, so Peter will weigh 77.6 kg after the 5 th month [1] 8 The sequence is increasing. 1.35 - 1.32 = 0.03, so the rule is +0.03 m [1] 1.38 + 0.03 = 1.41, so Alfie will be 1.41 m tall after the 4 th year [1] 9 The sequence is increasing. 9.44 - 9.53 = 0.31, so the rule is +£0.31 [1] 10.15 + 0.31 = 10.46, so Deontay's hourly wage for 2021 will be £10.46 [1]			
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11			[1]
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			[1]
			[1]

The sequence is decreasing. $3400 - 3150 = 250$, so the rule is $-£250$	[1]
We have to apply the rule three times. Once gives $2900 - 250 = 2650$ in 2018 Twice gives $2650 - 250 = 2400$ in 2019	[1]
Three times gives $2400 - 250 = 2150$ in 2020, so the car is worth £2150 in 2020	[1]
	3400 - 3150 = 250, so the rule is $-£250$ We have to apply the rule three times. Once gives $2900 - 250 = 2650$ in 2018 Twice gives $2650 - 250 = 2400$ in 2019 Three times gives $2400 - 250 = 2150$ in 2020, so