	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]
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 $-3.4 \, \text{kg}$	[1]
7(b)	$81.0 - 3.4 = 77.6$, so Peter will weigh 77.6 kg after the 5th month	[1]
8	The sequence is increasing. $1.35 - 1.32 = 0.03$, so the rule is $+0.03 \, \text{m}$	[1]
	$1.38 + 0.03 = 1.41$, so Alfie will be 1.41 m tall after the 4th year	[1]
9	The sequence is increasing. $9.84 - 9.53 = 0.31$, 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]
	$10.46 + 0.31 = 10.77$, so Deontay's hourly wage for 2022 will be £10.77	[1]

10	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]