CHECKPOINT 1

1	$-40a^2de$	$30bcde$	$25cd^2e$
	$72a^3f$	$-54abcf$	$-45cdfa$
	$-56a^3d$	$42abcd$	$35acd^2$
2	$7a^3/b^3cd$		
3	0.00455		
4	12 400 000 000		40
5	£363		
6	a = 3		
7	144		
8	mid = (2, 8)		grad = 3
9	x = 9		y = 5
10	$2\sqrt{34}$ or $\sqrt{136}$		$4\sqrt{2}$ or $\sqrt{32}$
11	26/56 = 13/28		
12	(2a - 1)(a + 2)		(2a -3)(2a + 3)

CHECKPOINT 2

1	$-63a^2de$	$56bcde$	$42cd^2e$
	$72a^3f$	$-64abcf$	$-48cdfa$
	$-54a^3d$	$48b^2cd$	$35bcd^2$
2	$7a^2/b^2cd$		
3	0.00655		
4	7 200 000 000		5000
5	£532.40		
6	a = 2		
7	90		
8	mid = (2, 8)		grad = 3
9	x = 1		y = 3
10	$\sqrt{193}$		$\sqrt{95}$
11	/90 = 21/45 = 7/15		
12	(2a - 1)(2a + 2)		(3a -4)(3a + 4)

CHECKPOINT 3

1	$-6a^2de$	$10bcde$	$8cd^2e$
	$21a^3f$	$-35abcf$	$-28cdfa$
	$-27a^3d$	$45abcd$	$36acd^2$
2	7t^4a		
3	0.00755		
4	130 000 000		0.002
5	£308.70		
6	a = 5		
7	72		
8	mid = (2, 12)		grad = 5
9	x = 5		y = 6
10	$\sqrt{233}$		$\sqrt{56}$ or $2\sqrt{14}$
11	54/110 = 27/55		
12	(3a - 1)(a + 5)		(3a -2)(3a + 2)

CHECKPOINT 4

1	$-36a^2de$	27bcde	$45cd^2e$
	$32a^3f$	-24abcf	-40cdfa
	$-24a^3d$	18abcd	$30acd^2$
2	$9t^3a^2$		
3	0.00875		
4	1 700 000 000		0.00003
5	£352.80		
6	a = 7		
7	60		
8	mid = (0.5, 4.5)		grad = 3
9	x = 7		y = 2
10	√85		2√33 or √132
11	76/156 = 19/39		
12	(3a + 1)(a - 7)		(5a -3)(5a + 3)

CHECKPOINT 5

1	$-21a^2de$	42bcde	$56cd^2e$
	$27a^3f$	-54abcf	-72cdfa
	$-15a^3d$	30abcd	$40acd^2$
2	$7t^3a$		
3	0.00435		
4	520 000 000		35 000
5	£581.90		
6	a = 7		
7	45		
8	mid = (-2, -6)		grad = 4
9	x = 7		y = 2
10	2√6 or √24		√69
11	54/110 = 27/55		
12	(5a - 2)(a + 3)		(4a -7)(4a + 7)

CHECKPOINT 6

1	$-54a^2de$	48bcde	$24cd^2e$
	$72a^3f$	-64abcf	-32cdfa
	$-63a^3d$	56abcd	$28acd^2$
2	$8t^4a^3$		
3	0.00315		
4	860 000 000		0.00021
5	£705.60		
6	a = 7		
7	80		
8	mid = (3.5, 6)		grad = 2
9	x = 8		y = 3
10	2√5 or √20		6√2 or √72
11	98/210 = 7/15		
12	(3a + 2)(a - 4)		(7a -1)(7a + 1)