Revision F3 (Topics 1-8) [34] MARKSCHEME

1.

(a)	$5(2a + 1)$	B1
(b)	$c(c - 4)$	B2
	c(c...) or c(... –4) *B1*	

[3]

2.

$x - 5$ seen	B1
$x + x - 5 = 41$	M1
23	A1

[3]

3.

(a)	6, 1	B1
(b)	Points plotted	B1ft
	Smooth curve	B1ft
(c)	Reading off at x-axis	M1
	[1.7, 1.8] and [-1.8,-1.7] *sight of 1.7 implies Ml*	A1ft

[5]

4

(a)	$xy = 5 + x$	M1
	$x(y - 1) = 5$	M1
	$x = 5/(y - 1)$	A1
(b)	$9x^4y^8$	B2
	or $?x^4y^8$ *B1* *or* $9x^?y^8$ *B1* *or* $9x^4y^?$ *B1*	

[5]

5.

$\sqrt{150} = 5\sqrt{6}$ B1

$\sqrt{150} - \sqrt{6} = 4\sqrt{6}$ B1

$\frac{\sqrt{150}-\sqrt{6}}{\sqrt{12}} = \frac{4\sqrt{6}}{2\sqrt{3}}$ or $\frac{4\sqrt{6}}{\sqrt{2}\sqrt{6}}$ M1

M1 for $\sqrt{12} = 2\sqrt{3}$

$2\sqrt{2}$ A1

SC3 $\frac{4}{\sqrt{2}}$

OR $\frac{\sqrt{1800} - \sqrt{72}}{12}$ *M1*

$= \frac{30\sqrt{2} - 6\sqrt{2}}{12}$ *B1*

$\frac{24\sqrt{2}}{12}$ *B1*

$= 2\sqrt{2}$ *A1*

or $\frac{5\sqrt{6} - \sqrt{6}}{\sqrt{2}\sqrt{6}}$ *M1M1*

$= \frac{4}{\sqrt{12}}$ *A1*

$= 2\sqrt{2}$ *A1*

[4]

6.

27.5 × 12 – 250 (=80) M1

330/250 or 330/2.5 get M1

cv/250 (×100) DM1

For completion of method

32% increase A1

32% must be stated.
Special cases all get M1, DM1, A0
Misreads both as 10% ⇒ 21%
Misreads both as 20% ⇒ 44%
Misread both as decreases ⇒ 28%

ALTERNATIVE

1.10 × 1.20 M1

M1 for 110% × 120%

= (their 1.32) – 1 DM1

A1 for 132% or equivalent

32% increase A1

A1 stating answer
Special cases above with equivalent values.

[3]

7.

$a = \frac{1}{2}$,
$b = 1, c = -2$
$a = 1, b = 2, c = -4$
or any other set of multiples B3

or gradient = – 0.5
B1
or line passing through (0,– 2)
B1
or y = – 0.5x –2
B2
or correct line drawn
B1

[3]

8.

$\pi \times 5.5^2 (= 95.03 \ldots)$ M1

Allow $\pi \times 11^2$ (=380.1...)

11^2 – their 95.03 M1

Must have used π

25.9 ...to 26.02 A1

26 B1

Independent mark for rounding a previous answer to the nearest whole number

[4]

9. $\sin 60 = \frac{x}{8}$ [M1]

Replace $\sin 60$ by $\frac{\sqrt{3}}{2}$ so $\frac{\sqrt{3}}{2} = \frac{x}{8}$ [B1]

$x = 4\sqrt{3}$ [A1]