

Revision F3 (Topics 1-2) [35] MARKSCHEME

1.

Correct substitution: $3 \times 3 - 4 \times (-2)$ [M1]
 17 [A1]

2.

(a) $3\frac{1}{2} - 1\frac{4}{7} = 2\frac{1}{2} - \frac{4}{7}$
 $= 2\frac{7-8}{14}$ M1

Need 2 and one of $\frac{7}{14}$ or $\frac{8}{14}$

$= 1\frac{13}{14}$ A2

Alternative

$\frac{7}{2} - \frac{11}{7}$
 $= \frac{49}{14} - \frac{22}{14}$ (at least 1 correct) M1

$= \frac{27}{14}$ A2

$2\frac{1}{14}$ SC1

(b) $\frac{\frac{1}{3} \times 9}{\frac{1}{8} \times 2^2} = \frac{3}{\frac{1}{2}}$ B1

Accept $\frac{3}{\frac{1}{8}}$

$= 3 \times 2$ M1

M1 for clear $\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c}$

$= 6$ A1

[6]

3.

(a) $7x + 17$ B2

B1 for each term

If final answer incorrect $10x + 5 - 3x + 12$

(with at most 1 error) scores B1

$7x + 17 = 0$ B0 B1

(b) $y^2 - 4y - 2y + 8$ B1

Allow mark if 3 terms correct

Or 2 terms correct in $ay^2 + by + c$

$y^2 (+) - 6y + 8$ B1

(c) $4t^2 + 10t - 10t - 25$ or $(2t)^2 - 5^2$
Allow mark if 3 terms correct

$4t^2 - 25$ A1

In whole question, penalise equating to 0 on the first occurrence only

[6]

4.

(a) (i) w^8 B1

(a) (ii) w^6 B1

(a) (iii) w^{12} B1

(b) (i) $\frac{x}{y}$ B1

Allow $x \div y$ or $x \times y^{-1}$

(b) (ii) x^2 B1

Allow $x \times x$

(b) (iii) $9y$ B1

Allow y^9 $9 \times y$ $y \times 9$ $3^2 \times y$ $y \times 3^2$

[6]

5.

6.8×10^{-5}	B1
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6.

(a) $2(5p - 2)$ B1

(b) $q(q + 3)$ B1

(c) $r(r - 1)$ B1

[3]

7.

$\frac{23}{90}$	M1	For a fully complete method as far as finding two correct decimals that, when subtracted, give a terminating decimal (or integer) and showing intention to subtract eg $x = 0.25$ so $10x = 2.55$ then $9x = 2.3$ leading to...
	A1	correct working to conclusion

8.

(a) 12×10^{11} M1

Or 1200 000 000 000 or 12 and 10^{11}

$= 1.2 \times 10^{12}$ A1

(b) 0.5×10^4 B1

(0.5)

(10^4)

5×10^3 B1

Note: 5000 scores B2

[5]

9.

(a)	216 324 108	4 1 A01.3b 2 A03.1d 1 A03.3	B1 for 30 cm by 20 cm sol M1 for 270 + 30 or 240 + 20 sol by 9 or 12 oe M1 for 9 × 12 sol by 108	
(b)	Any fully correct argument	2 1 A02.4a 1 A03.1c	B1 for 370 and 30 oe	e.g. (3 × 10) does not divide exactly into (3.7 × 100) All units must be consistent