

Revision F3 (November Exam) [48] MARKSCHEME

1.

6. (a) $7a + 4b$ B2
B1 for each term
Do not accept fw
eg $7a + 4b = 11 ab$ scores B1
- (b) $8pq$ B1
- (c) $6x + 2 - 5x + 10$ M1
Allow one error
- (1) $x + 12$ A1
(1)x-8 scores SCI
- (d) $6x^3y^6$ B2
-1 eooo

[7]

2.

$$\frac{13}{3} - \frac{7}{5} \quad \text{M1}$$

Allow one error in 13 or 7

$$= \frac{65}{15} - \frac{21}{15} \quad \text{M1}$$

Allow one error in 65 or 21

$$= \frac{44}{15} \text{ or } 2\frac{14}{15} \quad \text{A1}$$

Accept either

or $3\frac{1}{3} \times \frac{2}{5}$ oe

$$= (3) \frac{5}{15} (-) \frac{6}{15} \text{ or } (4) \frac{5}{15} (-)(1) \frac{6}{15} \quad \text{M1}$$

$$= 3\frac{-1}{15} \quad \text{M1}$$

$$= 2\frac{14}{15} \quad \text{A1}$$

SCI $3\frac{1}{15}$

4.33 ... -1.4 A1

[3]

3.

$120 \sim 80\%$ M1

Number was $100 \times \frac{120}{80}$ M1

150 A1

[3]

- 4.
- (a) $4(x-3)$ B1
- (b) $x(x-5)$ B1 [2]
- 5.
- (a) w^8 B1
- (b) x^{-2} B1
- accept $1/x^2$*
- (b) y^6 B1 [3]
- 6.
- (a) Correct substitution: $D = 4(-1)^2 + 17$
 $S = 17$ [A1]
- (b) Correct substitution: $65 = 4r^2 + 17$ [M1]
 Rearranging: $4r^2 = 48$
 $r^2 = 12$ [M1]
 $r = 2\sqrt{3}$ [A1] must be in simplified form
- 7.
- (a) $x = -1$ M1,A1
M1 for $2x = -2$
A1 answer cao
- (b) $y = 7.5$ M1,M1,A1
M1 for $4y - 12 = 18$
M1 for $4y = 30$
A1 answer cao
- [5]
- 8.
- In 2001, number is $70\,000 \times 1.06 = 74\,200$
- In 2002, number is $74\,200 \times 1.06 = 78\,652$ M1
- In 2003, number is $78\,652 \times 1.06 = 83\,371$
- In 2004, number is $83\,371 \times 1.06 = 88\,373$
- In 2005, number is $88\,373 \times 1.06$ M1
M2 for $70\,000 \times 1.06^5$
- = 93 676 A1
Accept 93675 or 93675. ...
- = 94 000 A1
Accept 93 700, 93 600
Accept 90 000 if 93 676
or 93 700 seen
Note: 91000 No marks
- [4]

9.

(a) 11.5×10^{12} B1

or correct answer, not in correct standard form, could be normal numbers

$= 1.15 \times 10^{13}$ B1

(b) 0.46×10^{-2} B1

B1 for digits 46

4.6×10^3 B1

[4]

10.

Using multiples M1

*Using prime factors: $30 = 2 \times 3 \times 5$;
 $16 = 2^4$*

30, 60, 90....., 240 A1

16, 32, 48....., 240

*$LCM = 2^4 \times 3 \times 5 = 240$
Sight of 240 scores M1A1*

8 pack buns. 15 of sausages A1

*A pair of values giving equal numbers of buns and sausages
score M1A1A0
Correct answer with no working scores full marks*

[3]

11.

Alternative method 1		
$15 \times \frac{4}{5}$ or 12 or $15 \times \frac{8}{6}$ or 20 or $\frac{4}{5} \times \frac{8}{6}$ or $\frac{32}{30}$ or $\frac{16}{15}$	M1	oe
a) their $12 \times \frac{8}{6}$ or their $20 \times \frac{4}{5}$ or their $\frac{16}{15} \times 15$	M1dep	
16	A1	

Alternative method 2			
	$4 \times 15 \times 8$ or 480	M1	
	their $480 \div 5 \div 6$	M1dep	
	16	A1	
(b)	If one person works at a slower rate the answer will be higher or If some of the people work at a faster rate the task will take less time to complete	B1	oe

12.

(a) $\frac{1}{6}$ and $\frac{2}{3}$ B1B1

One or two correct and one incorrect answer given will be B1B0

One or two correct and both incorrect answers given B0B0

(b) $0.\dot{2}$ B1

Accept 0.2^r or $0.2\dots$

(c) $1000x = 154.\dot{5}\dot{4}$
 $10x = 1.\dot{5}\dot{4}$ **and subtracts** M1

$100x = 15.4\dot{5}\dot{4}$ and subtracts x

$990x = 153$ A1

$99x = 15.3$

$\frac{153}{990}$ (oe fraction) = $\frac{17}{110}$ A1

Must see an equivalent fraction as well as $\frac{17}{110}$

[6]

Alt $0.1 + 0.054$

$1000n = 54.54$

$10n = 0.54$ **and subtracts** M1

$100n = 5.45$ and subtracts n

$990n = 54$ A1

$99n = 5.4$

$\frac{153}{990}$ (oe fraction) = $\frac{17}{110}$ A1

Must see an equivalent fraction as well as $\frac{17}{110}$