Y9 November 2020 (calculator) MS

Q1.

(a) $2a + 11b$

B1 for 2a or (+) 11b

Do not ignore fw for B2

B2

(b) $8d + 20$

B1 for 8d or (+) 20

Do not ignore fw for B2

B2

(c) $3x(5 + 6xy)$

A2

-1 for each mistake (eg not fully factorized/ incorrect power/number)

[5]

Q2.

5×10^{-4}

B1

[1]

Q3.

$16a^{10}$

B1

[1]

Q4.

$2xy$

B1

[1]

Q5.

Alternative method 1

4200×0.38 or 1596

1.38 seen

M1

5796

A1

Q6.

Alternative Method 1

1.032 seen

M1

5000 × 1.032^3 *oe*

M1

5495.523…

May be implied

A1

5495.52

ft their answer rounded to 2 dp
SC1 5480

[4]

Q7.

Attempt to expand one bracket with another m1
Eg. $x^2 - x - 6$ a1
$x^3 + 3x^2 - 10x - 24$ a1

Q8.

Any valid statement about the coefficient

e.g. 5 should be 6
he has added 3 and 2 (instead of multiplying)
he should have multiplied 3 and 2

B1

Any valid statement about the power

e.g. 20 should be 9
he has multiplied 5 and 4 (instead of adding)
he should have added 5 and 4

B1

[2]

Q9.

$-6x^3 + 18x$
or $(-)(6x^3 - 18x)$

B1

$6x^3 + 15x^2 + 4x + 10$

Allow one error

M1

$6x^3 + 15x^2 + 4x + 10 - 6x^3 + 18x$

oe

ft B0M1 only

A1ft

$15x^2 + 22x + 10$

ft their 6 terms if at least M1 scored

Do not ignore fw

A1ft

[4]

Q10.

$3x - 21$ B1

$correct\ movement\ of\ 2x\ or\ 21$ M1

$\frac{26}{5}$ $or\ 5.2$ $or\ 5\frac{1}{5}$ A1

Q11.

$\frac{21}{100} \times 1.262 \times 10^{11}$ or

26 502 000 000 or 2.6502×10^{10}

or

$\frac{34}{100} \times 6.7 \times 10^{7}$ or

22 780 000 or 2.278×10^{7}

or

$(1.262 \times 10^{11}) \div (6.7 \times 10^{7})$ or

1883.(...)

oe

Digits 26 502 or 2278 or 1883 imply M1

M1

their 26 502 000 000 ÷

their 22 780 000

or

their 1883.(...) $\times \frac{21}{100} \div \frac{34}{100}$

oe

Digits 1163 imply M2

M1dep

1163.38(...) or 1163 or

1163.4 or 1163.39 or $1.163(...) \times 10^3$

A1

[3]