Mark scheme

End of Unit assessments are 30 marks, so you should allow 35 minutes.

The following marks are awarded for each question.

B	Unconditional accuracy mark
M	Method mark – the correct method must be shown but there may be an arithmetic error; the sight of the value given in brackets implies the award of the method mark
A	Accuracy mark – unless the question specifies that working **must** be shown then the sight of the correct answer implies the award of full marks (unless the answer clearly comes from incorrect working)
C	Communication mark
P	Process mark to show correct process for problem solving. Any other process of a similar standard to achieve an accurate result is acceptable to achieve this mark
cao	Correct answer only
ft	Incorrect values may be **followed through** from one step to the next **provided** that the correct method is seen in each step and the only errors are arithmetic. This is shown in mark schemes by putting a number in inverted commas
oe	Or equivalent answer mark

Non-calculator

Q	Answer	Mark	Comment
1	–8	B1	cao
2	–8	M1	for $3p - 2p = -7 - 1$ oe
		A1	
3	14	M1	$2 \times 2^3 - 2$
		A1	cao
4	$x^2 + 5x - 24$	M1	for $x^2 - 3x + 8x - 24$ where at least 3 terms are correct or all 4 terms are correct, ignoring signs
		A1	cao
5	$3p^3$	M1	for one correct stage in simplifying e.g. $\frac{24p^7}{8p^4}$
		A1	cao
6	5	M1	$5x + 35 = 3x + 45$
		A1	cao
7	9	M1	$\frac{(-4-8)^2}{(2\times 8)}$ oe
		A1	cao

8	$\frac{1}{2z}$	B1	cao
9a	$x^2 - y = -8$ An explanation that shows understanding e.g. There are no numbers (positive or negative) that multiply by themselves to give a negative answer.	C1	
9b	Cube root of −8 is −2	C1	
10	$5x + 3$	M1	$x^2 + 7x - (x^2 + 2x - 3)$ oe
		A1	

Calculator

Q	Answer	Mark	Comment
11	11	M1	for $60n = 740 - 80$ oe
		A1	cao
12a	$R = 35 + 1.4(0)x$	B1	cao
12b	£98	M1	for $(1.4 \times 45) + 35 = 63 + 35$
		A1	cao
13	235.2	B1	cao
14	$a = 0.825$	M1	
		A1	
15	10	M1	$4^3 + 4 \times 3^2$ oe
		A1	cao
16	66	M1	$7 \times (-3)^2 - -3$ oe e.g. $7 \times 9 + 3$
		A1	cao

Non-calculator

Question	Topic	Step	Marks
1	Solve simple two-step linear equations with integer coefficients, of the form $ax \pm b = c$.	5th	1
2	Find an unknown where it is not the subject of the formula and where an equation must be solved.	6th	2
3	Change the subject of a formula in one step e.g. $y = x + 4$	6th	2
4	Solve linear equations with integer coefficients in which the unknown appears on either side or on both sides of the equation.	8th	2
5	Substitute positive integers into expressions involving small powers (up to 3).	8th	2
6	Construct and solve equations involving brackets or unknown on both sides	7th	2

7	Substitute positive and negative integers into linear expressions and expressions involving powers.	7th	2
8	Simplify simple expressions involving index notation.	7th	1
9a	Substitute positive and negative integers into linear expressions and expressions involving powers.	7th	1
9b	Substitute positive and negative integers into linear expressions and expressions involving powers.	7th	1
10	Multiply out brackets involving positive or negative terms $(a \pm b)(c \pm d)$.	8th	2

Calculator

Question	Topic	Step	Marks
11	Substitute numbers into simple formulae.	5th	2
12a	Construct simple formulae.	5th	1
12b	Substitute numbers into simple formulae.	5th	2
13	Substitute numbers into simple formulae.	5th	1
14	Find an unknown where it is not the subject of the formula and where an equation must be solved.	7th	2
15	Substitute positive integers into expressions involving small powers (up to 3).	7th	2
16	Substitute positive and negative integers into linear expressions and expressions involving powers.	8th	2

Marks to Steps conversion table

The table below converts marks to a step on the Pearson progression scale. For more information on Progress & Assess please see the progression website.

Mark boundary	Step
0	U
1	3rd
2–5	4th
6–9	5th
10–15	6th
16–21	7th
22–30	8th