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
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 method or answer
cao	Correct answer only

Non-calculator			
Q	**Answer**	**Mark**	**Comment**
1	−3	A1	cao
2	16 × 15	M1	Attempts 4^2 and (8 + 7)
	240	A1	cao
3	34	M1	Uses a valid division method and has 3 in the tens position of the answer.
		A1	cao
4	E.g. There is a common multiple that is lower than 60 E.g. The common multiple is 30	C1	Allow any reasonable explanation that demonstrates an understanding that 60 is not the *lowest* common multiple.
5	Any calculation showing 3 × zero or 3 × negative value	C1	Calculation does not need an answer, e.g. 3 × −1 is acceptable without the answer −3
6	2 × 400 oe (=800)	M1	Method for Clare's cost
	'800' − 145	M1	Method for Eva's cost
	£655(.00)	A1	cao Must include £ sign
7	E.g. 5, 11, 17, 23, 35	P1	Uses remainder to list at least two possible values
		A1	cao (award full marks if 35 shown without any process evidence)

8	E.g. 15 − −19	P1	Calculation that demonstrates attempt to find the difference between 15 and −19
	34 °C	A1	cao

Calculator

Q	Answer	Mark	Comment
9	17	B1	cao
10	e.g. 1092 − 217 (= 875) 1092 + 875 = 1967	P1	Subtracts 217 from 1092 or from 2 × 1092 oe
	e.g. 1092 + 1092 − 217	P1	Complete process
	1967	A1	cao
11a	650 − 225 (= 425)	P1	Process to find remaining costs
	'425' ÷ 2	P1 ft	Process to find the monthly payment
	£212.50	A1	cao Money amount must be written correctly
11b	e.g. Answer is £70.8333333 so it does not give an exact amount which can be paid in money	C1	Allow any reasonable clear explanation
12	e.g. 2 × 7.2 (= 14.40)	P1	Calculates cost of both tickets
	20 − '14.40'	P1 ft	Complete process
	£5.60	A1	cao Must include £ sign
13	$\sqrt{200}$ or 14.14 seen or 14 × 14 = 196 **and** 15 × 15 = 225	P1	Full method showing convincing argument
	14 × 14 = 196 conclusion	C1	
14	28 × 3 (= 84)	P1	Process to find Polly's amount
	'84' ÷ 2	P1 ft	Complete process to find Simon's amount
	42	A1	cao

Non-calculator

Question	Topic	Step	Marks
1	Add and subtract integers – positive and negative numbers.	4th	1
2	Use conventional notation for priority of operations, including brackets and powers.	4th	2
3	Divide 3-digit by 2-digit whole numbers.	4th	2
4	Know all multiplication and division facts up to 12 × 12; identify common factors, common multiples and prime numbers.	4th	1
5	Multiply and divide negative integers by a positive number.	4th	1
6	Solve multi-step problems in contexts, including money and decide which operations and methods to use.	5th	3

7	Find common factors and primes. Use short division to divide 4-digit numbers by 1-digit numbers, including those which leave a remainder; spot patterns, make and test general rules, and check when an answer does not fit the predicted pattern.	5th	2
8	Add and subtract negative integers from positive and negative numbers.	6th	2

Calculator

Question	Topic	Step	Marks
9	Know square numbers beyond 10 × 10	3rd	1
10	Solve addition and subtraction multi-step problems in contexts, including money, deciding which operations and methods to use and why.	4th	3
11a	Solve multi-step problems in contexts, including money, deciding which operations and methods to use.	4th	3
11b	Solve addition and subtraction problems in contexts, including money, deciding which operations and methods to use and why.	5th	1
12	Solve multi-step problems in contexts, including money, deciding which operations and methods to use.	5th	3
13	Find and interpret roots of non-square numbers using square root key.	5th	2
14	Recognise and use relationships between operations, including inverse operations.	6th	3

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	1st
2–4	2nd
5–9	3rd
10–16	4th
17–21	5th
22–30	6th