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
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 : 5	M1	÷ 2 seen
		A1	cao
2a	48	B1	cao
2b	5	M1	60 ÷ 12
		A1	cao
3a	Any 3 squares shaded	B1	cao
3b	70	B1	cao
4a	175	B1	cao
4b	525	M1	"175" × 3 or 350 ÷ 4 × 6 oe
		A1	cao
5	Full explanation with correct figures	M1	12 : 18 = 2 : 3 or 1 : 1.5 or 3 : 6 = 1 : 2
		C1	Full explanation from correct figures e.g. 2 : 3 ≠ 1 : 2
6	30	M1	6 ÷ 20 × 100 oe
		A1	cao

7	18		M1	300 ÷ 200 (= 1.5) oe or 12 ÷ 200 (= 0.06) oe
			M1	"1.5" × 12 oe or "0.06" × 300 oe
			A1	cao
8	$\dfrac{3}{4}$		B1	Accept 0.75 or 75%

▦	**Calculator**			
Q	**Answer**		**Mark**	**Comment**
9a	$\dfrac{1}{2}$		M1	$\dfrac{22}{44}$ or $\dfrac{11}{22}$ or $\dfrac{2}{4}$
			A1	cao
9b	50		B1	cao
10a	4 : 5		B1	cao
10b	$\dfrac{4}{9}$		B1	oe
11	5 : 3 : 7		M1	15 : 9 : 21 or 10 : 6 : 14
			A1	cao
12	122.5		M1	98 ÷ 4 (= 24.5) or 5 ÷ 4 (= 1.25)
			M1	"24.5" × 5 or "1.25" × 98
			A1	cao
13	56		M1	$\dfrac{8}{8+1}$ × 63 oe
			A1	cao

Non-calculator			
Question	**Topic**	**Step**	**Marks**
1	Reduce a ratio to its simplest form.	3rd	2
2a	Use a ratio to find one quantity when the other is known.	4th	1
2b	Use a ratio to find one quantity when the other is known.	4th	2
3a	Use ratio notation.	4th	1
3b	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	4th	1
4a	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	5th	1
4b	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	5th	2

5	Reduce a ratio to its simplest form.	5th	2
6	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	6th	2
7	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	6th	3
8	Understand the relationship between fractions and ratios, write fractions as ratios and ratios as fractions.	6th	1

🖩 Calculator			
Question	**Topic**	**Step**	**Marks**
9a	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	4th	2
9b	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	4th	1
10a	Use ratio notation.	4th	1
10b	Understand the relationship between fractions and ratios, write fractions as ratios and ratios as fractions.	5th	1
11	Reduce ratios to their simplest form, including three-part ratios.	5th	2
12	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	6th	3
13	Solve problems involving simple ratios, i.e. unequal sharing and grouping using knowledge of fractions and multiples.	6th	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
1–3	2nd
4–8	3rd
9–14	4th
15–20	5th
21–30	6th