

Year 6 Spring 1 Arithmetic

Marking guidance

↓ NC objective in a year below ↑ NC objective in a year above * Key question

Qu.	National curriculum objectives	Progression map outcome	Answers	Marks	Possible errors	Advice
1*	↓ Y5.NAS.1 Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	AS Choose and use an appropriate method to subtract whole numbers with up to 7 digits.	25574	1	An answer of 34 586 is the result of simply giving the difference between digits in each column.	If decomposition hasn't been understood, it should be revised using 3- and 4-digit numbers with an expanded notation.
2	Y6.NF.4 Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]	FDRP Multiply pairs of unit fractions by reading the × sign as 'of'.	a) $\frac{1}{18}$ b) $\frac{1}{35}$	1	Answers of $\frac{2}{9}$ and $\frac{2}{12}$ suggest children have added the numerators and denominators. When multiplying fractions, the numerators and denominators are multiplied together. However, children often fail to follow this rule. Encourage use of a visual model using 'of' as a reading of the multiplication symbol. For example, for part (a): <i>There is a sixth of a cake left. What fraction of the whole cake would one third of that be?</i>	

3	Y6.NF.4 Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]	FDRP Multiply unit fractions by non-unit fractions, writing the answer in its simplest form.	a) $\frac{5}{24}$ b) $\frac{2}{15}$	1	Answers of $\frac{5}{10}$ and $\frac{3}{15}$ suggest children have added the numerators and denominators.	As above, illustrate questions with a visual model.
4*	Y6.ASMD.1 Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	MD Multiply multi-digit numbers up to 4 digits by a 1- or 2-digit whole number using the formal written method of long multiplication.	1984	2	An answer of 868 suggests a place-value error when multiplying by the 10. Other errors may be due to problems with the long multiplication layout. Some children may use the grid method, which is perfectly acceptable.	Encourage children to estimate before carrying out the calculation – this should alert to a place-value error. Model carefully using the correct layout. $\begin{array}{r} 1 \ 2 \ 4 \\ \times \quad 1 \ 6 \\ \hline 1 \ 2 \ 4 \ 0 \\ 7 \ 1 \ 4^2 \ 4 \\ \hline 1 \ 9 \ 8 \ 4 \end{array}$
5*	Y6.ASMD.1 Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	MD Multiply multi-digit numbers up to 4 digits by a 1- or 2-digit whole number using the formal written method of long multiplication.	74 681	2	An answer of 16 235 suggests a place-value error when multiplying by the 20. Other errors may be due to problems with the long multiplication layout.	See question 4 above.