## YEAR 6 ARITHMETIC PRACTICE TESTS

## Spring Test 2

## Teacher guidance

## Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication and long division by a two-digit number
- Finding fractions of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets

New: Multiplication of pairs of simple fractions

## A teaching suggestion

${ }^{\text {Step }} 1$
Cut one circle into quarters and another into eighths. Display $\frac{1}{2} \times \frac{1}{4}=$

tep2 Explain that 'of' and ' $\times$ ' have the same meaning, so $\frac{1}{2} \times \frac{1}{4}=\frac{1}{2}$ of $\frac{1}{4}$.
tep 3
Show the children that to find half of a quarter you need to cut the quarter in half. Compare this 'half of a quarter' with the eighths, and agree that they match. $\frac{1}{2}$ of $\frac{1}{4}=\frac{1}{8}$ and $\frac{1}{2} \times \frac{1}{4}=\frac{1}{8}$

Repeat with $\frac{1}{3} \times \frac{1}{2}=$ by cutting a half into three parts, which gives one sixth: $\frac{1}{3} \times \frac{1}{2}=\frac{1}{6}$.

Work through lots of examples with the children until they confidently multiply the digits, understanding why they do so. Allow them to work with a partner before trying the calculations independently.

This work can be extended to multiples of fractions (e.g. $\frac{1}{2} \times \frac{3}{4}=$ ).

| Question number | Question | Answer | Marks | Related test |
| :---: | :---: | :---: | :---: | :---: |
| 1 | $1-0.7=\square$ | 0.3 | 1 | Y5 Summer Test 4 |
| 2 | $\square=610 \times 1000$ | 610000 | 1 | Y5 Autumn Test 5 |
| 3 | $2^{3}=\square$ | 8 | 1 | Y5 Spring Test 1 |
| 4 | $4835 \times 3=\square$ | 14505 | 1 | Y5 Spring Test 3 |
| 5 | $\square^{2}=9$ | 3 | 1 | Y5 Autumn Test 4 |
| 6 | $8391 \div 7=\square$ | 1198 r 5 | 1 | Y5 Autumn Test 6 |
| 7 | $9^{2}=\square$ | 81 | 1 | Y5 Autumn Test 4 |
| 8 | $63.2 \times 10=\square$ | 632 | 1 | Y5 Spring Test 2 |
| 9 | $\frac{3}{5}-\frac{1}{15}=\square$ | $\frac{8}{15}$ (or equiv) | 1 | Y5 Spring Test 6 |
| 10 | $2 \times 9=\square+10$ | 8 | 1 | Y6 Autumn Test 4 |
| 11 | $\frac{14}{6}-\frac{1}{2}=\square$ | $1 \frac{5}{6}$ (or equiv) | 1 | Y6 Autumn Test 2 |
| 12 | $\square=\frac{1}{4} \times \frac{1}{2}$ | $\frac{1}{8}$ (or equiv) | 1 | Y6 Spring Test 2 |
| 13 | $800-423=\square$ | 377 | 1 | Y5 Autumn Test 3 |
| 14 | $\frac{3}{4}$ of $120=\square$ | 90 | 1 | Y6 Autumn Test 3 |
| 15 | $\square=6.25 \div 100$ | 0.0625 | 1 | Y5 Spring Test 2 |
| 16 | $\frac{1}{3} \times \frac{1}{4}=\square$ | $\frac{1}{12}$ (or equiv) | 1 | Y6 Spring Test 2 |
| 17 | $5203 \div 9=\square$ | 578 r1 | 1 | Y5 Spring Test 5 |
| 18 | $(20-4) \div 4=\square$ | 4 | 1 | Y6 Spring Test 1 |
| 19 | $6007-\square=2308$ | 3699 | 1 | Y5 Autumn Test 3, Y3 Autumn Test 1 |
| 20 | $\frac{3}{5} \times \frac{1}{2}=\square$ | $\frac{3}{10}$ (or equiv) | 1 | Y6 Spring Test 2 |
| 21 | $75+\square=5110$ | 5035 | 1 | Y5 Spring Test 4, Y3 Autumn Test 1 |
| 22 | $6 \times(5-2)=\square$ | 18 | 1 | Y6 Spring Test 1 |
| 23 | $8105=\square \times 5$ | 1621 | 1 | Y5 Spring Test 5, Y4 Autumn Test 3 |
| 24 | $5332 \div \square=4$ | 1333 | 1 | Y5 Spring Test 5 , Y4 Autumn Test 3 |
| 25 | $752945-86582=\square$ | 666363 | 1 | Y5 Spring Test 4 |
| 26 | $9906 \div 26=\square$ | 381 | $2 *$ | Y6 Autumn Test 6 |
| 27 | $26.8+8.68+14=\square$ | 49.48 | 1 | Y6 Autumn Test 5 |
| 28 | $723 \times 86=\square$ | 62178 | 2* | Y6 Autumn Test 1 |
| Total marks |  |  | 30 |  |

