

Unit 2 Calculations

Five daily lessons

National
Numeracy Strategy

Year 6
Summer term

Unit Objectives Year 6

- Consolidate all (mental calculation) strategies from previous years.
- **Extend written methods to column addition and subtraction of numbers involving decimals.**
- **Derive quickly division facts corresponding to tables up to 10×10 .**
- **Extend written methods to:**
 - Short multiplication of numbers involving decimals.
 - Long multiplication of a three-digit by a two-digit integer.
 - Short division of numbers involving decimals.
- **Explain methods and reasoning.**
- Use a calculator effectively.
- Check results of calculations.

Pages 41, 43

Pages 49, 51

Page 59

Pages 67, 69

Page 77

Page 71

Page 73

This Unit Plan is designed to guide your teaching.

You will need to adapt it to meet the needs of your class.

Resources needed to teach this unit:

- Activity sheet 2.1
- Activity sheet 2.2
- Whiteboards
- Large sheets of paper
- Timer
- Mental mathematics test questions (Unit 1)
- OHP calculator
- Calculators
- Sugar paper
- Related Key Stage 2 National test questions

Year 5

Link Objectives


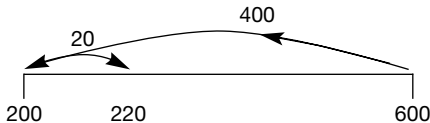
Year 7

- Calculate mentally a difference such as $8006 - 2993$.
- **Extend written methods for column addition and subtraction of two integers less than 10 000.**
- **Know by heart all multiplication facts up to 10×10 .**
- **Extend written methods to:**
 - Short multiplication of HTU by U.
 - Long multiplication of TU by TU.
 - Short division of HTU by U (write integer remainder).
- Develop calculator skills.
- Check results of calculations.

- Consolidate and extend mental methods of calculation to include decimals.
- Multiply and divide three-digit by two-digit whole numbers; extend to multiplying and dividing decimals with one or two places by single-digit whole numbers.
- Check results.
- Carry out calculations with a calculator.

(Key objectives in bold)

department for
education and skills

Planning sheet	Day One	Unit 2 <i>Calculations</i>	Term: <i>Summer</i>	Year Group: 6
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
<p>Consolidate mental strategies for addition and subtraction.</p>	<ul style="list-style-type: none"> Write on the board: $64 + 69$ The children work out solution. Discuss strategies, compare $64 + 70 - 1$ and $60 + 60 + 4 + 9$. <div>Q What jottings did you make?</div> <p>Emphasise that the children should use jottings if they help.</p> <ul style="list-style-type: none"> Write on the board: $600 - 380$ The children work out solution. Discuss strategies and jottings. Compare counting up  <p>and adjusting multiples of 100.</p>  <p>Remind the children that they have little time to answer questions in the mental test so any jotting should be done quickly.</p> <ul style="list-style-type: none"> Give the children addition and subtraction questions to do mentally, with jottings. Extend to include decimals such as: $2.5 + 2.4$, $4.8 + 4.7$, $7.9 - 6.1$, $5.2 - 2.7$. Collect answers and correct mistakes. 	<p>Use written methods of calculation, including column methods of addition and subtraction, extending to decimals.</p> <p>Explain methods orally.</p> <p>Estimate by approximating and check result.</p>	<ul style="list-style-type: none"> Write on the board: $648 + 468$ <div>Q What is an approximate answer to this?</div> <p>Agree it is over 1000 as $600 + 400 = 1000$. Work through column addition with the class. Emphasise the need to set out carefully to ensure digits with the same place value line up.</p> <div>Q How would we set out $127.8 + 3.92 + 0.51$?</div> <p>Ensure the children line up the decimal points.</p> <ul style="list-style-type: none"> Write on the board: $1005 - 427$ <div>Q What is an approximate answer to this?</div> <p>Agree it is about 600 as $1000 - 400 = 600$. Remind the children that they could use counting up as they did earlier. Work through in column format:</p> $ \begin{array}{r} 1005 \\ - 427 \\ \hline 73 \quad (500) \\ 500 \quad (1000) \\ \hline 5 \quad (1005) \\ \hline 578 \end{array} $ <p>Emphasise the need to set out carefully and how column addition is important for this method too.</p> <ul style="list-style-type: none"> Compare with the method of decomposition. Emphasise the difficulty of using decomposition when there are zeros. Set the class other subtractions. Work through column method of subtraction. <div>Q How would we calculate $428.6 - 3.38$?</div> <p>Discuss the children's responses and work through a column method of subtraction.</p> <ul style="list-style-type: none"> Set the class examples of addition and subtraction calculations. Collect answers and discuss strategies. Remind the children that they should ask 'Can I do this in my head or with jottings?' and use an approximation. 	<ul style="list-style-type: none"> Write on the board; $1004 + 992$; $1004 - 992$ <div>Q Can you do these in your head? What is your answer to these?</div> <p>Emphasise that the children should not assume all questions on a written paper need a written method. Discuss the children's answers and methods.</p> <ul style="list-style-type: none"> With the children draw up some points to remember when adding and subtracting. Record these on large sheets of paper and display. <div>By the end of the lesson the children should be able to:</div> <ul style="list-style-type: none"> Develop efficient standard methods for addition and subtraction they can apply generally. Add two or more decimal fractions with up to four digits and either one or two decimal places. Subtract decimal fractions with up to three digits and either one or two decimal places. Know that decimal points should line up under each other. <p>(Refer to supplement of examples, section 6, pages 49, 51.)</p>

VOCABULARY
adjust
multiples
counting up
jottings

VOCABULARY:
placeholder
decimal position
approximate
decimal place

RESOURCES:
Large sheets of paper

Planning sheet	Day Two	Unit 2 Calculations	Term: Summer	Year Group: 6																																																		
Oral and Mental		Main Teaching																																																				
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Plenary																																																		
Derive quickly division facts corresponding to multiplication facts involving 4, 6, 8 times tables.	<ul style="list-style-type: none">The children recite 4, 6 and 8 times tables. Repeat for 40, 60 and 80 times tables and 0.4, 0.6 and 0.8 times tables. <div><p>Q What is 3 × 4?</p><p>Q What is 3 × 40?</p><p>Q What is 3 × 0.4?</p></div> <p>Record answers:</p> <p>3 × 4 = 12, 3 × 40 = 120, 3 × 0.4 = 1.2</p> <ul style="list-style-type: none">Remind the children of the connection between these calculations. <div><p>Q What division facts correspond to these multiplication facts?</p></div> <p>Record particular answers, e.g.</p> <p>12 ÷ 3 = 4, 120 ÷ 40 = 3, 1.2 ÷ 0.4 = 3</p> <p>Repeat with other families of facts.</p>	Multiply numbers, including a three-digit by a two-digit number.	<ul style="list-style-type: none">Write on the board: 2519 × 8. <div><p>Q How could we work this out?</p></div> <p>Discuss methods.</p> <div><p>Q What is an approximate answer?</p></div> <p>Agree it is about 2500 × 10 = 25 000, add that this is an over-estimate.</p> <ul style="list-style-type: none">Work through the grid method with the class. Remind them the first step is to partition the number 2519. With the class record: <table><tr><td>×</td><td>2000</td><td>500</td><td>10</td><td>9</td></tr><tr><td>8</td><td>16 000</td><td>4000</td><td>80</td><td>72</td></tr></table> <div><p>Q What is the next step?</p></div> <p>Agree it is to add the numbers and set this out as a column addition. As you do so state how each number was arrived at, e.g. 16 000, that's the 8 × 2000.</p> <div><p>Q If we can identify these products, do we need the table?</p></div> <p>Record the full calculation on the board:</p> <table><tr><td>2519</td><td></td></tr><tr><td>×</td><td>8</td></tr><tr><td>16000</td><td>Compare with the</td></tr><tr><td>4000</td><td>approximate</td></tr><tr><td>80</td><td>25 000 and agree</td></tr><tr><td>72</td><td>that the answer is</td></tr><tr><td>20152</td><td>of the right order.</td></tr></table> <ul style="list-style-type: none">Leave the calculation on the board and work through 3245 × 6 without using the grid. <table><tr><td>3245</td><td></td></tr><tr><td>×</td><td>6</td></tr><tr><td>18000</td><td></td></tr><tr><td>1200</td><td></td></tr><tr><td>240</td><td></td></tr><tr><td>30</td><td></td></tr><tr><td>19470</td><td></td></tr></table> <div><p>Q How can we check this answer?</p></div>	×	2000	500	10	9	8	16 000	4000	80	72	2519		×	8	16000	Compare with the	4000	approximate	80	25 000 and agree	72	that the answer is	20152	of the right order.	3245		×	6	18000		1200		240		30		19470		Agree that as 3000 × 5 = 15 000, which is an under-estimate, the answer is of the right order.	<div><p>Q What is the answer to 2519 × 0.8?</p></div> <p>Remind the children of the work in the oral and mental starter. Agree the answer will be 10 times smaller, 2015.2.</p> <div><p>Q What is 32.45 × 6?</p></div> <p>Agree the answer is 100 times smaller, 194.7. Pose other questions involving the original numbers, and set the children some multiplications to carry out. Collect answers and discuss moving the decimal point.</p> <ul style="list-style-type: none">On the board write 461 × 23. <div><p>Q What is an approximate answer?</p></div> <p>Agree it is about 500 × 20 = 10 000.</p> <div><p>Q How could we work the calculation out?</p></div> <ul style="list-style-type: none">Discuss suggestions and use grid method and relate it to long multiplication method, e.g. <table><tr><td>461</td><td></td></tr><tr><td>×</td><td>23</td></tr><tr><td>9220</td><td>461 × 20</td></tr><tr><td>1383</td><td>461 × 3</td></tr><tr><td>10603</td><td></td></tr></table> <p>Compare with estimate.</p> <div><p>Q What is 46.1 × 2.3?</p></div> <p>Agree it is 100 times smaller, and the answer is 106.03.</p> <p>Set the children three-digit by two-digit multiplications. Incorporate changes in the decimal points in the discussion. Check answers and correct misunderstandings.</p>	461		×	23	9220	461 × 20	1383	461 × 3	10603		<ul style="list-style-type: none">Write on the board: 45 × 5 = 225 <div><p>Q How can we use this information to find the answers to: 4.5 × 5, 145 × 5, 45 × 15, 45 × 6, 145 × 6, 4.5 × 0.5, 145 × 0.5, 45 × 1.5, 4.5 × 6?</p></div> <p>Repeat with another given fact.</p> <div><p>By the end of the lesson the children should be able to:</p><ul style="list-style-type: none">Develop an efficient method for multiplication, that can be applied generally.Know that units should line up under units etc.Extend to decimals with up to two decimal places, multiplying by a single digit, approximately at first.<p>(Refer to supplement of examples, section 6, page 67.)</p></div>
×	2000	500	10	9																																																		
8	16 000	4000	80	72																																																		
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×	23																																																					
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Planning sheet	Day Three	Unit 2 <i>Calculations</i>	Term: <i>Summer</i>	Year Group: 6
Oral and Mental				Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities / Focus Questions
<p>Derive quickly division facts corresponding to multiplication facts involving 3, 7, 9 times tables.</p>	<ul style="list-style-type: none"> The children recite 4, 6 and 8 times tables. Repeat for 40, 60 and 80 times tables and 0.4, 0.6 and 0.8 times tables. <div> <p>Q What is 6×9?</p> <p>Q What is 6×90?</p> <p>Q What is 6×0.9?</p> </div> <p>Ask the children to identify connections made in previous lesson</p> <ul style="list-style-type: none"> The children recite 3, 7 and 9 times tables. Repeat for 30, 70 and 90 times tables and 0.3, 0.7 and 0.9 times tables. <p>Record answers and generate corresponding division facts.</p> <ul style="list-style-type: none"> Select a range of 5-second questions from the mental mathematics test questions sheets. The children write answers on whiteboards. Discuss questions and correct misunderstandings. 	<p>Understand and use short multiplication of numbers involving decimals.</p> <p>Understand and use short division</p> <p>Estimate and check results.</p> <p>Understand the relationship between \times / \div.</p>	<ul style="list-style-type: none"> Write on the board: 32.6×4 <div> <p>Q What is an approximate answer?</p> </div> <p>Agree it is about $30 \times 4 = 120$.</p> <div> <p>Q How could we work this calculation out?</p> </div> <p>We could calculate 326×4 and divide by 10. Emphasise that this helps to decide where the decimal point goes in the answer.</p> <ul style="list-style-type: none"> Give out Activity sheet 2.1. Complete the first question with the class. Encourage the children to make any jottings they need to and explain that they can use the grid or the short multiplication method. Collect answers and check calculations and position of the decimal points. <div> <p>Q If $326 \times 4 = 1304$, what is $1304 \div 4$?</p> </div> <ul style="list-style-type: none"> Agree it is 326. <div> <p>Q How could we work out $1304 \div 4$?</p> </div> <p>With the class work through the calculation.</p> <div> $\begin{array}{r} 1304 \\ - 400 \quad (100 \times 4) \\ \hline 904 \\ - 400 \quad (100 \times 4) \\ \hline 504 \\ - 400 \quad (100 \times 4) \\ \hline 104 \\ - 40 \quad (10 \times 4) \\ \hline 64 \\ - 40 \quad (10 \times 4) \\ \hline 24 \\ - 24 \quad (6 \times 4) \\ \hline 0 \end{array}$ </div>	<ul style="list-style-type: none"> Write on the board: $4 \square \square \div 5 = \square 7$ <div> <p>Q How can we find the missing digits?</p> </div> <p>Encourage the children to rewrite as: $4 \square \square = \square 7 \times 5$</p> <p>Establish that the units digit in the 400s number must be a 5, and the 10s digit in the two-digit number could be 8 as $80 \times 5 = 400$.</p> <p>Using the OHP calculator confirm $87 \times 5 = 435$ works.</p> <div> <p>Q Is this the only solution?</p> </div> <p>Change the 87 to 77 and establish this is too small. Try 97 and confirm $97 \times 5 = 485$ also works.</p> <ul style="list-style-type: none"> Repeat with: $1 \square \square 8 \div 7 = 1 \square \square$ <p>Ensure the children use their understanding of number, multiplication and division to identify possible answers before testing suggestions on the OHP calculator.</p> <div> <p>By the end of the lesson the children should be able to:</p> <ul style="list-style-type: none"> Develop an efficient method for division that can be applied generally. Understand that multiplication is the inverse of division and vice versa. <p>(Refer to supplement of examples, section 6, page 69.)</p> </div>

RESOURCES
Whiteboards
Timer
Mental mathematics test questions (Unit 1)

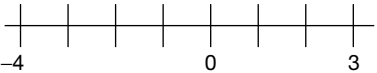
RESOURCES
Activity sheet 2.1
OHP calculator

Planning sheet	Day Four	Unit 2 Calculations	Term: Summer	Year Group: 6	
Oral and Mental		Main Teaching		Plenary	
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
Use tests of divisibility. Rehearsal of mental and mathematical knowledge and skills.	<div><div><div>Q Can you give me a three-digit number which is a multiple of 5?</div><div>Q How do you know it is a multiple of 5?</div><div>Q Is 208 a multiple of 5? Why not?</div></div><div><ul style="list-style-type: none">Establish that a test of divisibility by 5 is whether the last digit is a 5 or 0. Write this on sugar paper. Collect these, add to sugar paper and display.</div><div><div>Q What other tests of divisibility do you know?</div><div><ul style="list-style-type: none">Select a range of 5- and 10-second questions for the children to answer on whiteboards. Collect answers and discuss methods, correct errors and misunderstandings.</div></div></div>	Divide two- and three-digit numbers, including decimals. Estimate and check results.	<ul style="list-style-type: none">Write on the board: $153 \div 9$<div><div>Q What is an approximate answer?</div></div><p>Agree it is about $160 \div 10 = 16$. Work through calculation.</p><div><div><div>153</div><div>- 90</div><div>63</div><div>- 63</div><div>0</div></div><div><div>(10×9)</div><div>(7×9)</div></div></div><p>Write $153 \div 9 = 17$.</p><div><div>Q What is $15.3 \div 9$?</div></div><p>Establish that as the number we are dividing into is 10 times smaller the answer is 10 times smaller; $15.3 \div 9 = 1.7$</p><div><div>Q What is $153 \div 0.9$?</div></div><p>Establish that as we are dividing by a number that is 10 times smaller the answer will be 10 times bigger $153 \div 0.9 = 170$. Confirm the answer makes sense, as 0.9 is just less than 1 and $153 \div 1 = 153$.</p><ul style="list-style-type: none">Give the children division questions involving decimals, e.g. $57.6 \div 4$, $228 \div 0.6$. Collect answers and correct errors.Write on the board: $(247 + 68.5) \div 0.42$.<div><div>Q Is this answer bigger or smaller than 1000?</div></div>	Remind the children they need to work out the brackets first. Encourage the children to justify their decision by approximating $400 \div 0.5 = 800$, say, using the OHP calculator work out the answer with the class, reminding them they should jot down answers or use the memory on the calculator. Confirm that the answer is just below 1000. Repeat. <ul style="list-style-type: none">Write on the board: $33.664 \div \square = 6.4$ and $\square \div 2.6 = 123$.<div><div>Q How do you find the missing numbers using your calculator?</div></div><p>Collect suggestions and answers. Write on the board: $12 \div \square = 4$ and $\square \div 5 = 10$</p><div><div>Q How do you do these in your head?</div></div><p>Ensure children can rewrite these as: $12 = 4 \times \square$, $12 \div 4 = \square$ and $\square = 10 \times 5$</p><p>Use these to rewrite the first two questions and ensure the children can find the correct answers using their calculators. Repeat giving other calculations for the children to answer.</p>	<ul style="list-style-type: none">Display a sample of related test questions that involve multiplication and division, from papers that allow and don't allow a calculator to be used.<div><div>Q Which of these questions can you do without a calculator?</div></div><p>Identify those questions that are from test papers where calculators are not allowed. Discuss mental, written methods and use of jottings. Discuss those questions where calculators are allowed.</p><div><div>Q How might you answer these questions?</div></div><p>Collect responses, encourage jottings and discuss what the children might write in response to 'Show your working'.</p><div><div>Q How can we make most effective use of your calculator?</div></div><p>HOMEWORK –</p><ul style="list-style-type: none">Give the children test questions to complete for homework.Ask the children to list in their own words, key points to remember when answering multiplication and division questions.Note these on sugar paper and display.<div><div>By the end of the lesson the children should be able to:<ul style="list-style-type: none">Decide whether calculations can be done mentally, with pencils and paper or a calculator.Use a calculator to respond to questions such as: $568.1 \div \square = 24.7$.</div><p>(Refer to supplement of examples, section 6, pages 71, 75.)</p></div>
RESOURCES Whiteboards Timer Mental mathematics Test Questions (Unit 1) Sugar paper		VOCABULARY remainder RESOURCES OHP calculator Calculators Large sheets of paper Related Key Stage 2 National test questions			

RESOURCES
Whiteboards
Timer
Mental mathematics
Test Questions (Unit 1)
Sugar paper

VOCABULARY
remainder

RESOURCES
OHP calculator
Calculators
Large sheets of paper
Related Key Stage 2
National test questions

Planning sheet	Day Five	Unit 2 <i>Calculations</i>	Term: <i>Summer</i>	Year Group: 6
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
<p>Rehearsal of mental mathematics, knowledge and skills.</p> <p>VOCABULARY positive negative difference</p> <p>RESOURCES Whiteboards Timer Mental mathematics test questions (Unit 1)</p>	<ul style="list-style-type: none"> Write on the board: -4 and 3 <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Q What is the difference between these two numbers?</p> </div> <p>Collect answers, remind the children that the word 'difference' is used here to mean arithmetic difference or size of gap. Use the number line to establish that the difference is 7.</p>  <ul style="list-style-type: none"> Remind the children that -4 is negative 4. Ask the children questions involving finding the difference between positive and negative numbers. The children should write answers on whiteboards. Encourage use of jottings. Set times for answer to build up speed. Introduce the children to 15-second questions. Ask a question, time the answer. Discuss questions and correct any misunderstandings. 	<p>Review the week's work and address the objectives set out on the front page.</p> <p>Explain methods and reasoning.</p> <p>RESOURCES Activity sheet 2.2 Related Key Stage 2 National test questions</p>	<ul style="list-style-type: none"> Remind the children of the key points arising from the week's lessons. Review the displays and discuss these. Remind the children that it is important that they can explain their methods and provide clear reasons why they make a decision. Write on the board: Sam says '$84458 \div 4$ has no remainder'. Is she right? Explain how you know. Collect answers, remind children about tests of divisibility. Agree that Sam is wrong as $58 \div 4 = 14 \text{ R } 2$ and the number 84458 is divisible by 4 if the number formed from the last two digits is divisible by 4. With the children, agree an explanation that is clear and concise. Give out Activity sheet 2.2 for the children to work on. Emphasise the need for the children to try to give brief and clear explanations, with a calculation if appropriate. Collect answers and discuss the children's explanations. 	<ul style="list-style-type: none"> Collect responses to homework and correct any mistakes and misunderstandings. Give the children time to identify what they can do and what they still need to concentrate on. Collect responses and highlight any areas you might return to or give the children additional practice and support with. Give out past questions. Encourage the children to use the test questions to help them improve their calculation skills and speed. <div style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <p>By the end of the lesson the children should be able to:</p> <ul style="list-style-type: none"> Use mental, calculator and pencil and paper methods to support, record or explain calculations, achieving consistent accuracy. <p>(Refer to supplement of examples, section 6, pages 67, 69 and 71.)</p> </div>

1. 32.6×4

x	300	20	6
4			

$$\begin{array}{r} 326 \\ \times 4 \\ \hline \end{array}$$

Estimate: $\boxed{30} \times \boxed{4} = \boxed{120}$

Calculate: $\boxed{326} \times \boxed{4} \div \boxed{10}$

Answer: $\boxed{} \div \boxed{10} = \boxed{}$

2. 24.5×7

x			
7			

$$\begin{array}{r} 245 \\ \times 7 \\ \hline \end{array}$$

Estimate: $\boxed{} \times \boxed{} = \boxed{}$

Calculate: $\boxed{} \times \boxed{} \div \boxed{}$

Answer: $\boxed{} \div \boxed{} = \boxed{}$

3. 37.8×0.6

x			
6			

$$\begin{array}{r} 378 \\ \times 6 \\ \hline \end{array}$$

Estimate: $\boxed{} \times \boxed{} = \boxed{}$

Calculate: $\boxed{} \times \boxed{} \div \boxed{}$

Answer: $\boxed{} \div \boxed{} = \boxed{}$

4. 5.37×5

x			
5			

$$\begin{array}{r} 537 \\ \times 5 \\ \hline \end{array}$$

Estimate: $\boxed{} \times \boxed{} = \boxed{}$

Calculate: $\boxed{} \times \boxed{} \div \boxed{}$

Answer: $\boxed{} \div \boxed{} = \boxed{}$

5. 10.62×0.3

x			
3			

$$\begin{array}{r} 1062 \\ \times 3 \\ \hline \end{array}$$

Estimate: $\boxed{} \times \boxed{} = \boxed{}$

Calculate: $\boxed{} \times \boxed{} \div \boxed{}$

Answer: $\boxed{} \div \boxed{} = \boxed{}$

1. Leon says 45×25 is not 1130
Is he correct? Yes/No
Explain how you know.



2. Bob says $4200 \div 56 = 75$
Explain how he could check that he is right without using a calculator.



3. Nicole says $4738 - 2964 = 1774$
So $4738 - 2864$ must be 1874
Is she right? Yes/No
Explain why.



4. Raj says $584.6 + 846.8$ cannot be 1430.14
Is he correct? Yes/No
Explain why.



5. Parveen knows that $54 \times 6 = 324$
Explain how she can use this information to find the answer to this multiplication: 254×6 .



Related Key Stage 2 National test questions:

2001 Test A

1

Write in the **missing** numbers.



$$45 + \boxed{} = 110$$

$$(4 \times 5) - \boxed{} = 12$$

$$60 \times 3 = \boxed{}$$

1
1 mark

1
1 mark

1
1 mark

9

Write in the missing digits to make this correct.

$$\begin{array}{r} \boxed{} \quad 4 \quad \boxed{} \\ \times \qquad \qquad \qquad 6 \\ \hline 2 \quad 0 \quad 5 \quad 2 \end{array}$$

9
1 mark

11

Calculate **847 ÷ 7**.



11
1 mark

Total

Unit 2 Year 6 (Summer Term)

2001 Test A cont.

16

Calculate **1025 – 336**.



16

1 mark

18

Calculate **509 x 24**.



Show
your **working**.
You may get
a mark.



18

2 marks

Total

Unit 2 Year 6 (Summer Term)

2001 Test B

1

Circle **three** numbers which **add** to make **190**.



10 30 50 70 90

1

1 mark

6

Here are some number cards

4

4

4

9

9

9

Use **five of the number cards** to make this correct.



+

5 4 8

6

2 marks

7

Write in what the missing numbers could be.



$$(\square \div \square) + 90 = 100$$

7

1 mark

Total

Unit 2 Year 6 (Summer Term)

2001 Test B cont.

11

Circle **two numbers** which have a **difference of 2**.



-1 -0.5 0 0.5 1 1.5

11

1 mark

21

Write in the missing number.



$$404.09 \div \boxed{} = 8.5$$

21

1 mark

23

Write the **three prime numbers** which multiply to make **231**.



$$\boxed{} \times \boxed{} \times \boxed{} = 231$$

23

1 mark

Total

Unit 2 Year 6 (Summer Term)

2000 Test A

1

Each card on the left matches one on the right.

Draw lines to match the cards which are **equal** in value.

One has been done for you.



3×6	2×25
10×5	9×2
5×8	50×2
9×10	3×30
5×20	10×4

2

Write in the **missing** numbers.



$$150 + \boxed{} = 500$$



$$172 - \boxed{} = 60$$

1

2 marks

2

1 mark

2

1 mark

Total

2000 Test A cont.

5

Calculate $369 + 251$.

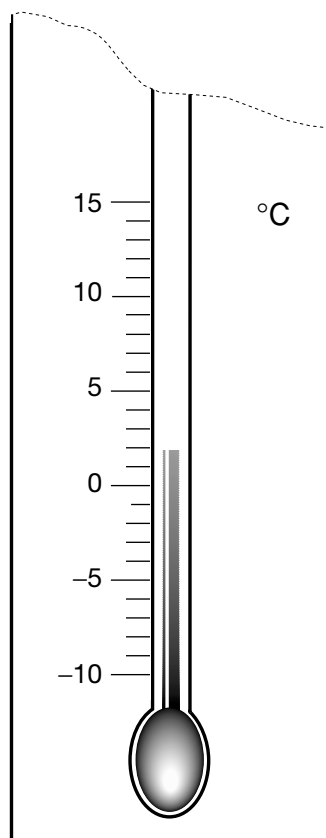


5

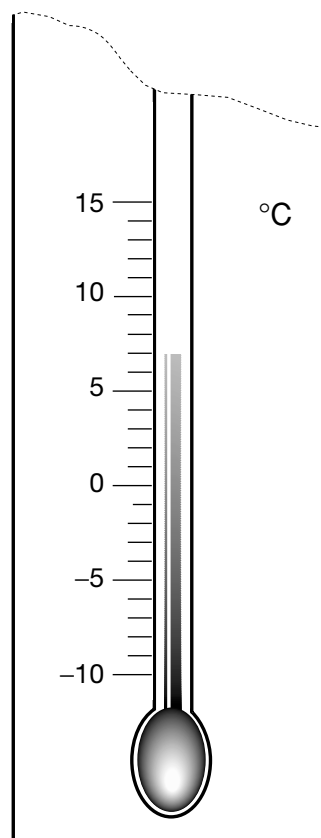
1 mark

8

These are the temperatures in York and Rome on a day in winter.



York



Rome

How many degrees **colder** is it in York than in **Rome**?


 °C

8

1 mark

On another day, the temperature in York is **4°C**.

Rome is **7 degrees colder** than York.

What is the temperature in **Rome**?


 °C

8

1 mark

Total

Unit 2 Year 6 (Summer Term)

2000 Test A cont.

11

Circle **two** numbers which **add** to make **0.12**.



0.1 0.5 0.05 0.7 0.07 0.2

11

1 mark

21

Calculate **8.6 – 3.75**.



21

1 mark

23

Leila knows that

$$65 \times 3 = 195.$$

Explain how she can **use this information** to find the answer to this multiplication:

$$165 \times 3.$$



23

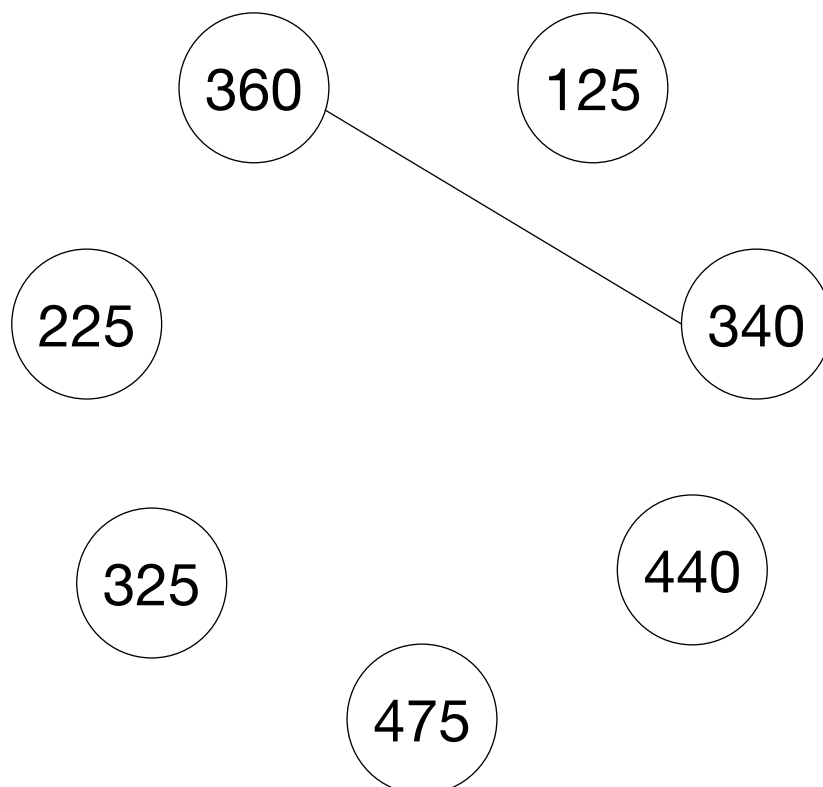
1 mark

Total

2000 Test B

1

Draw a line to join two other numbers which have a **total** of **700**.



1

1 mark

4

Write in the missing number.



$$60 + 99 + \boxed{} = 340$$

4

1 mark

7

Write **two numbers**, each **greater than 100**, to complete this subtraction.



$$\boxed{}\boxed{}\boxed{} - \boxed{}\boxed{}\boxed{} = \boxed{2}\boxed{0}\boxed{8}$$

7

1 mark

Total


2000 Test B cont.

12

Nadia is working with **whole** numbers.

She says,

‘If you add a two-digit number to a two-digit number you cannot get a four-digit number’.

Is she correct? Circle Yes or No.  **Yes / No**

Explain why.



12

1 mark

17

Put a tick (✓) in the correct box for each calculation.

Use a calculator.

The first one has been done for you.



	less than 1000	equal to 1000	more than 1000
$8.9 \times 9.9 \times 11.9$			✓
$(786 - 387) \div 0.41$			
$95.4 + (91 \times 9.95)$			
$12.5 \times (21.1 + 58.9)$			

17

2 marks

Total

1999 Test A

1

Write in the **missing** numbers.



$$(3 \times 4) + \boxed{} = 19$$

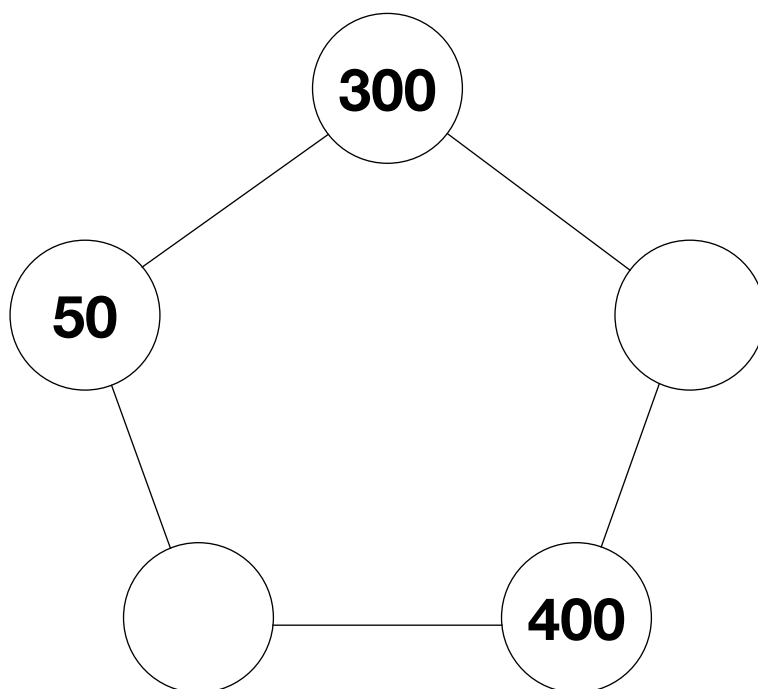
$$(5 \times 5) - \boxed{} = 23$$

1 mark

1 mark

4

Write **two more numbers** in this diagram so that the **total** of **all** the numbers is **1000**.



1 mark

9

Calculate **438 – 296**.



1 mark

Total

Unit 2 Year 6 (Summer Term)

1999 Test A cont.

12

Calculate 549×6



12

1 mark

18

Circle the **two** numbers which add up to 1.



0.1

0.65

0.99

0.45

0.35

18

1 mark

23

Calculate 268×53 .



Show your **working**.
You may get
a mark.

23

2 marks

Total

1999 Test B

1

Write in what the **missing** numbers could be.



$$100 - \boxed{} = 38$$



$$\boxed{} \times \boxed{} = 65$$



$$160 \div \boxed{} = 40$$

1 mark

1 mark

1 mark

2

Circle **two** numbers which add up to **150**.



63	64	65	66	67
73	74	75	76	77
83	84	85	86	87
93	94	95	96	97

1 mark

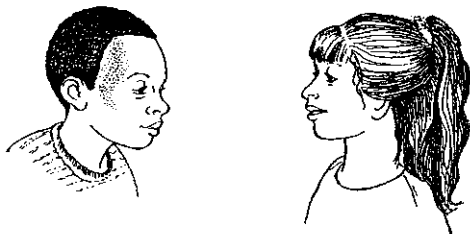
Total

1999 Test B cont.

4

Millie and Ryan play a number game.

What's my number?



Is it under 20? Yes

Is it a multiple of 3? Yes

Is it a multiple of 5? Yes

What is the number?



4

1 mark

They play the game again.



Is it under 20? No

Is it under 25? Yes

Is it odd? Yes

Is it a prime number? Yes

What is the number?



4

1 mark

Total

Unit 2 Year 6 (Summer Term)

1999 Test B cont.

5

Write in the **four missing digits**.

Put **one** digit in each box.



$$\boxed{}\boxed{} + \boxed{}\boxed{} = 198$$

5

1 mark

9

Write the number that is nearest to **5000** which uses all the digits **4, 5, 6** and **7**.



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9

1 mark

11

The **same** number is missing from each box.

Write the **same** missing number in each box.



$$\boxed{} \times \boxed{} \times \boxed{} = 1331$$

11

1 mark

17

Write in the missing number.



$$950.4 \div \boxed{} = 49.5$$

17

1 mark

Total

Unit 2 Year 6 (Summer Term)

1998 Test A

1

Each side of this square must **add up to 80**.

Write in the **missing** numbers.



30	40	
		50
20	40	20

1

1 mark

2

Write in the **missing** number.



$$12 \times \boxed{} = 36$$

2

1 mark

9

Calculate **58 × 6**.



9

1 mark

11

Calculate **808 – 512**.



11

1 mark

Total

1998 Test A cont.

19

Calculate 431×23 .



Show
your **working**.
You may get
a mark.



19

2 marks

Total

Unit 2 Year 6 (Summer Term)

1998 Test B

1

Here are three digits.



Use **all** the digits **6**, **1** and **3** to write a number that is **between 100** and **140**.



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1
1 mark

Use **all** the digits **6**, **1** and **3** to complete this **subtraction**.



--	--

 -

--

 = 25

1
1 mark

3

Write in what the **missing** numbers could be.



$$100 - \square - \square = 55$$

3
1 mark

Write in the **missing** number.



$$30 \times \square = 120$$

3
1 mark

Total

1998 Test B cont.

4

The **three missing numbers** are each **greater than zero**.Write in what the **missing numbers** could be.

$$\boxed{} + \boxed{} + \boxed{} = 1000$$

4
1 mark

12

Circle **one number** on the grid which can be **divided by 9** with a **remainder of 1**.

97	98	99
107	108	109
117	118	119

12
1 mark

13

Write in the **missing** number.

$$568.1 \div \boxed{} = 24.7$$

13
1 mark

Total

1998 Test B cont.

17

Circle **two** numbers with a **difference** of 8.



-5 -4 -3 -2 -1 0 1 2 3 4 5

Write **two** numbers with a **sum** of **-6**.



17

1 mark

Total

Unit 2 Year 6 (Summer Term)

1997 Test A

2

Circle the **three** numbers which **divide by 5** with **no remainder**.

84	85	86
91	92	93
98	99	100
105	106	107

2

1 mark

3

Write the **missing** number.



$$30 \div \square = 6$$

3

1 mark

6

A number **multiplied by itself** gives the answer **49**.

Circle the number.



2 3 4 5 6 7 8 9

6

1 mark

10

Write what the **two missing digits** could be.



$$\begin{array}{|c|c|c|} \hline & 6 & 2 \\ \hline \end{array} + \begin{array}{|c|c|c|} \hline & 9 & 5 \\ \hline \end{array} = 757$$

10

1 mark

Total

1997 Test A cont.

15

In the chart any **three** numbers in a line, **across or down**, have a **total of 18.45**

Write the **missing** number.

2.46	8.61	7.38
11.07		1.23
4.92	3.69	9.84



Show
your **working**.
You may get
a mark.

15

2 marks

18

Here is a table of temperatures at dawn on the same day.

Temperatures °C	
London	−4°
Moscow	−6°
New York	−9°
Paris	+6°
Sydney	+14°

What is the **difference** in temperature between **London** and **Paris**?



°C

18

1 mark

Total

1997 Test A cont.

At noon the temperature in **New York** has **risen by 5°C**.

What is the temperature in **New York** at noon?



°C

18

1 mark

21

Kim knows that:

$$137 \times 28 = 3836.$$

Explain how she can use this information to work out this multiplication.

$$138 \times 28.$$



21

1 mark

Total

Unit 2 Year 6 (Summer Term)

1997 Test B

1

Write what the **three missing numbers** could be.



$$\boxed{} + \boxed{} + \boxed{} = 75$$

1

1 mark

Write what the **two missing numbers** could be:



$$80 - \boxed{} - \boxed{} = 25$$

1

1 mark

7

Write what the **three missing** digits could be.



$$\boxed{} \boxed{} \times 3 = \boxed{8} \boxed{}$$

7

1 mark

15

Sima thinks of a number.

She **divides** it by **12**. Her answer is **26**.

What is the number Sima thinks of?



15

1 mark

16

Write the **missing** number.



$$10233 \div \boxed{} = 379$$

16

1 mark

Total

1997 Test B cont.

18

Write the **three missing** digits.



$$\boxed{}\boxed{} \times \boxed{} = 371$$



18

1 mark

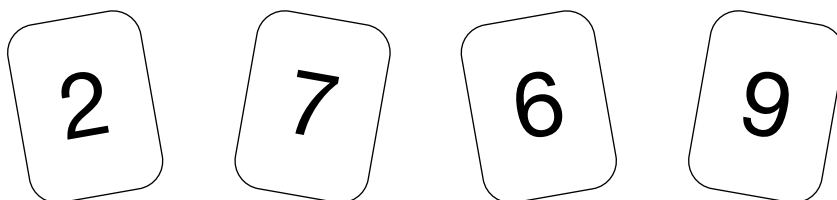
Total

Unit 2 Year 6 (Summer Term)

1996 Test A

4

Here are four number cards.



Use **all** the number cards to make an addition.

The answer must be **MORE than 100**.



+

4

1 mark

9

Two of these numbers **divide by 5** with **no remainder**.

Circle the **two** numbers.

67 33 25 57 13 60

9

1 mark

15

Write in the **missing** digit.

	7
--	----------

 $\times 9 = 333$

15

1 mark

Total

1996 Test A cont.

19

This three-digit number has **2** and **7** as **factors**.

2 9 4

Write another **three-digit** number which has **2** and **7** as **factors**.

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19

1 mark

Total

Unit 2 Year 6 (Summer Term)

1996 Test B

4

Here are two calculations with some signs missing.

Write in the correct **signs**.



$$4 \times 3 \times 2 \bigcirc 1 = 25$$

$$4 \bigcirc 3 \bigcirc 2 \bigcirc 1 = 23$$

6

Write in the **missing** digits.



$$593 - 20 \square = 3 \square 1$$

15

Complete this **three-digit** number so that it is a **multiple of 9**.



2		
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4

2 marks

6

1 mark

15

1 mark

Total