

Discussion Problems

Step 14: Mental Calculations

National Curriculum Objectives:

Mathematics Year 6: (6C6) [Perform mental calculations, including with mixed operations and large numbers](#)

About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 6 Four Operations](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Mental Calculations

1. Find your way through the maze by choosing the most efficient mental calculations to use for each question. All new calculations are placed under the ribbons. You may travel one square at a time in either a horizontal or vertical direction.

<p>END</p> <p>Find $\frac{1}{2}$ of 336. Then, divide this number by seven.</p> <p> = 26</p>	<p>53 hundreds + 35 hundreds. 29 ones + 24 ones. Add the two totals together.</p> <p> 4,193 - 2,550</p>	<p>40 hundreds and 193 ones - 25 hundreds and 50 ones</p> <p> 840 \div 3 \div 5</p>	<p>Eight hundred and forty \div ten. Times answer \times 2 and then, divide by 3</p> <p> 3,525 + 6,273</p>
<p>Add 1 to make 5,330, subtract 4 to make 3,520. Add them and add 3.</p> <p> 336 \div 7 \div 2</p>	<p>Double 5 and multiply this answer by 36.</p> <p> 5,329 + 3,524</p>	<p>Double five thousand nine hundred.</p> <p> 2 \times 36 \times 5</p>	<p>Calculate five groups of thirty-five and double this answer.</p> <p> 3,964 - 3,589</p>
<p>Round the numbers to estimate: 7,000 - 4,000 and add 84</p> <p> 15 \times 20 \times 4</p>	<p>Round the numbers to estimate: 5,910 + 5,890</p> <p> 7,010 - 3,926</p>	<p>5,911 + 5,889</p> <p></p>	<p>59 hundreds + 58 hundreds + 10 tens</p> <p> 6 \times 22 \times 1</p>

START

DP

2. Match efficient methods and calculations to crack the secret code below.

$5,429 + 3,007$ _____	$5 \times 17 \times 6$ _____	Twenty-four multiplied by one. Times this answer \times 10. Subtract 24. _____	$7,392 - 5,292$ _____	$6,423 + 6,432$ _____
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Double six thousand, four hundred and add 55.	$5 \times 6 = 30$. Calculate 17×3 and multiply the answer by 10.	Partition 17. Calculate 10×5 and 7×5 . Add the answers. Multiply answer by 5 and add 85.	Round numbers to nearest hundred. $7,400 -$ five thousand, three hundred.	Seven thousand, three hundred - five thousand, two hundred. Add 55.	$1 \times 9 \times 24$	54 hundreds + thirty hundreds. Add six.	$24 \times 1 \times 10$
S	L	U	S	R	O	F	E

DP

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One route through the maze is shown above.

START

DP

2. Match efficient methods and calculations to crack the secret code below.

<p>5,429 + 3,007</p> <p>F</p> <hr style="width: 50%; margin: 0 auto;"/>	<p>5 \times 17 \times 6</p> <p>L</p> <hr style="width: 50%; margin: 0 auto;"/>	<p>Twenty-four multiplied by one. Times this answer \times 10. Subtract 24.</p> <p>O</p> <hr style="width: 50%; margin: 0 auto;"/>	<p>7,392 - 5,292</p> <p>S</p> <hr style="width: 50%; margin: 0 auto;"/>	<p>6,423 + 6,432</p> <p>S</p> <hr style="width: 50%; margin: 0 auto;"/>
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Double six thousand, four hundred and add 55.	5 \times 6 = 30. Calculate 17 \times 3 and multiply the answer by 10.	Partition 17. Calculate 10 \times 5 and 7 \times 5. Add the answers. Multiply answer by 5 and add 85.	Round numbers to nearest hundred. 7,400 - five thousand, three hundred.	Seven thousand, three hundred - five thousand, two hundred. Add 55.	1 \times 9 \times 24	54 hundreds + thirty hundreds. Add six.	24 \times 1 \times 10
S	L	U	S	R	O	F	E

The secret code is FLOSS.

DP