Discussion Problems
Step 14: Add Two 3-Digit Numbers 2

National Curriculum Objectives:

Mathematics Year 3: (3C2) Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
Mathematics Year 3: (3C4) Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

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 3 Addition and Subtraction resources.

Did you like this resource? Don't forget to review it on our website.

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Add Two 3-Digit Numbers 2

1. Jane asks Mum for help with her homework. She has a column addition calculation with some missing digits. She shows Mum these rules:

- Each empty square must contain a different digit.
- The calculation must include at least one exchange.
- The answer has an odd digit sum.
- In the answer, one of the missing digits is half the value of the hundreds digit.

	3	☐	7
+	☐	☐	☐
	8		

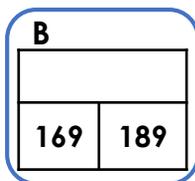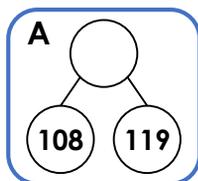| 0	1	2	3	4	5	6	7	8	9

Find all of the missing digits. Is there more than one possible answer?
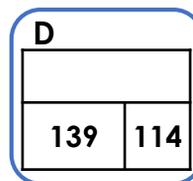
DP

2. Investigate different pairs of representations that add together to make the total described below.

> The total is an even number.
> It is more than 763 but less than 850.
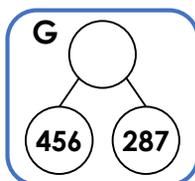> The tens digit is less than 5.

A
108   119

B
| 169 | 189 |

C
347 + 178 =

D
| | |
| 139 | 114 |

E
two hundred and ninety-seven

F
five hundred and thirty-nine

G
456   287

H
198 + 375 =

I
249 + 199 =

J
194   195

DP

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Discussion Problems – Add Two 3-Digit Numbers 2 – Year 3
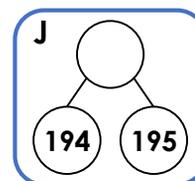
Add Two 3-Digit Numbers 2

1. Jane asks Mum for help with her homework. She has a column addition calculation with some missing digits. She shows Mum these rules:

- Each empty square must contain a different digit.
- The calculation must include at least one exchange.
- The answer has an odd digit sum.
- In the answer, one of the missing digits is half the value of the hundreds digit.

```
    3  [6]  7
+  [4] [8] [2]
   _____
    1
    8   4    9
```

0	1	2	3	4	5	6	7	8	9

Find all of the missing digits. Is there more than one possible answer?
Various answers, for example: 387 + 427 = 814; 397 + 437 = 834; 337 + 517 = 854; 347 + 527 = 874; 367 + 527 = 894; 327 + 514 = 841; 357 + 496 = 853; 317 + 528 = 845; 367 + 480 = 847

DP

2. Investigate different pairs of representations that add together to make the total described below.
Various answers, for example:

> Any even number between 800 and 840.

A
227
108 119

B
358
169 | 189

C
347 + 178 = 525

D
253
139 | 114

E
two hundred and ninety-seven

F
five hundred and thirty-nine

G
743
456 287

H
198 + 375 = 573

I
249 + 199 = 448

J
389
194 195

B and I = 806; E and F = 836; C and J = 814; H and D = 826

DP

DP