

Hi Yachts ☺

Mental Maths

Choose the best option for you then solve the problem in your head:

Option 1: What addition and subtraction calculations give the answer 36?

Option 2: What addition, subtraction, multiplication and division calculations give the answer 36?

Option 3: What multiplication, division and fraction calculations give the answer 36?

Use the RUCSAC method to solve the problems:



Read

Read the question carefully.



Underline

Underline or write down the keywords and numbers.



Choose

Choose the correct operation (+ - x or ÷) and a mental or written method of calculation (you could use diagrams).



Solve

Solve it! Make sure you follow the steps carefully.



Answer







Check that you have answered the question properly. What did you need to find out in the first place?









Check

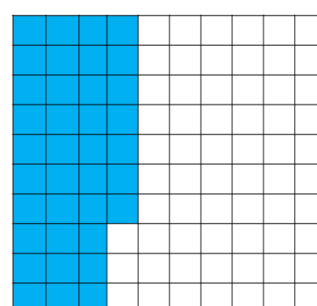
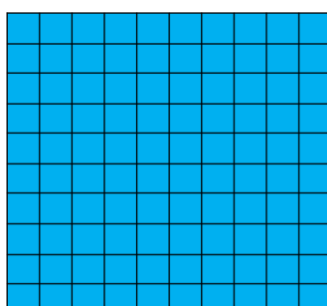
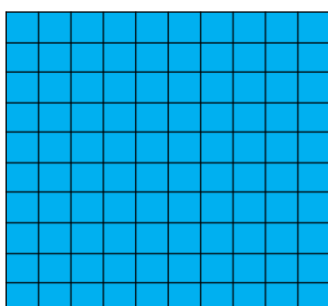
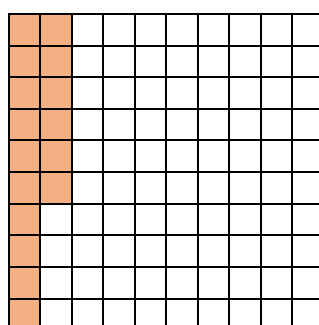
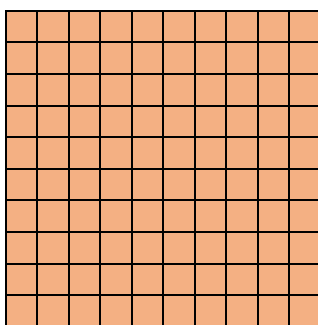
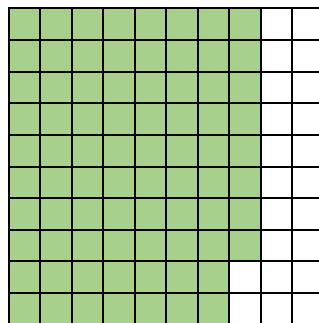
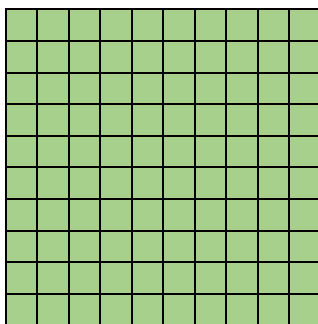
Check your answer. Use the inverse calculation or another checking technique (was it close to your estimate?)

- I. Write the calculation for each question then solve how much the change should be. Remember that £1 = 100p. I have given you an example.

 <div style="border: 1px solid black; padding: 2px; display: inline-block;">50p</div> <p>I pay with:</p>  <p>Calculation: $100\text{p} - 50\text{p} = 50\text{p}$</p> <p>My change is: 50p</p>	 <div style="border: 1px solid black; padding: 2px; display: inline-block;">40p</div> <p>I pay with:</p>  <p>Calculation:</p> <p>My change is:</p>	 <div style="border: 1px solid black; padding: 2px; display: inline-block;">60p</div> <p>I pay with:</p>  <p>Calculation:</p> <p>My change is:</p>
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 <div style="border: 1px solid black; padding: 2px; display: inline-block;">£1</div> <p>I pay with:</p>  <p>Calculation:</p> <p>My change is:</p>	 <div style="border: 1px solid black; padding: 2px; display: inline-block;">55p</div> <p>I pay with:</p>  <p>Calculation:</p> <p>My change is:</p>	 <div style="border: 1px solid black; padding: 2px; display: inline-block;">87p</div> <p>I pay with:</p>  <p>Calculation:</p> <p>My change is:</p>
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2. Each shaded square on the grid represents 1p.
- How much money does each diagram show? Give your answers in pence only and in pounds and pence e.g. 278p, £2.78
 - Is there a quick way to count the squares?



3. Add together the amount in the green diagram and the amount in the orange diagram. Give your answer in pence only and in pounds and pence.

Remember the place value of each digit and use partitioning to make it easier. *Example:*

$$\begin{array}{r} \text{£1.96} \\ / \quad | \quad \backslash \\ 100 \quad 90 \quad 6 \end{array} + \begin{array}{r} \text{£2.76} \\ / \quad | \quad \backslash \\ 200 \quad 70 \quad 6 \end{array}$$

Step 1: Add the **ones** together: $6 + 6 = 12$

Step 2: Add then **tens** together (don't forget to carry over any tens that you now have from adding the ones together): $90 + 70 + 10 = 170$

Step 3: Add the **hundreds** together (don't forget to carry over any hundreds that you now have from adding the tens together): $100 + 200 + 100 = 400$

Step 4: Add the totals from the **hundreds**, **tens** and **ones** calculations together: $400 + 70 + 2 = 472\text{p} = \text{£}4.72$

4. Subtract the amount in the orange diagram from the amount in the blue diagram. Give your answer in pence only and in pounds and pence.
You can use partitioning again to help you. Think about how you write the pounds and pence answer if you don't have any pounds.
5. Add your answer from question 5 to the amount in the blue diagram. Give your answer in pence only and in pounds and pence.

Challenges

6. Solve these problems by adding near doubles then adjusting. Remember to give your answer in pounds. *Example:*

$$42 + 38 = \text{£}80$$

$$\begin{array}{c} / \qquad \backslash \\ 2 \text{ more than } 40 + 2 \text{ less than } 40 = 80 + 2 - 2 = 80 \end{array}$$

Double 40 is 80

- | | | |
|--------------------------------|--------------------------------|--------------------------------|
| a. $\text{£}28 + \text{£}31$ | b. $\text{£}62 + \text{£}59$ | c. $\text{£}298 + \text{£}302$ |
| d. $\text{£}399 + \text{£}402$ | e. $\text{£}251 + \text{£}498$ | f. $\text{£}401 + \text{£}398$ |
7. I start with some pound coins, some ten pence pieces and some pennies. After exchanging, I only want to have pound coins.
- What coins could I start with?
 - How many different options can you think of?
 - Can you find a system for working out all the options?
 - Which units (hundreds, tens or ones) are the most important in this task?