

Tuesday 7<sup>th</sup> July 2020  
10, 100 or 1000 More and Less

Hi Yachts!

Mental Maths

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

**Option 1:** How much is one half of 12? How much is two quarters of 12? Do you notice anything?

**Option 2:** How much is one fifth of 35? How much is three fifths of 35?

**Option 3:** Which fractions are equivalent to one half?

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?)

1. Put these numbers in the order they would be in if you were counting up in 10s:

21	41	31	11	51	1
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2. Put these numbers in the order they would be in if you were counting down in 10s:

66	46	76	36	56	86
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3. Complete the following sequences:

a. 5 15 25 \_\_\_ 45 \_\_\_

f. \_\_\_ 32 42 \_\_\_ 62 72

b. 64 54 \_\_\_ 34 \_\_\_ 14

g. 76 86 \_\_\_ 106 \_\_\_ 126

c. \_\_\_ 21 31 41 \_\_\_ 61

h. 29 \_\_\_ \_\_\_ 59 69 \_\_\_

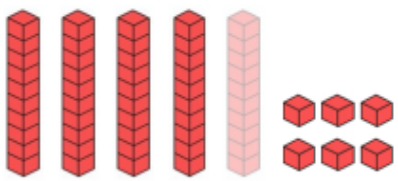
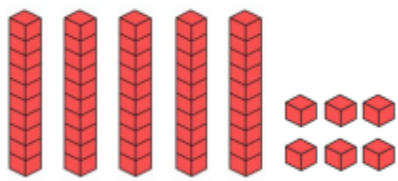
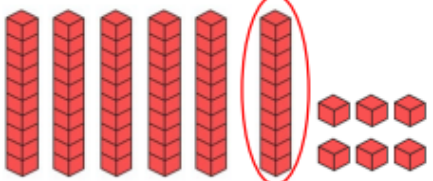
d. 76 \_\_\_ \_\_\_ 46 36 26

i. 88 78 68 \_\_\_ \_\_\_ \_\_\_

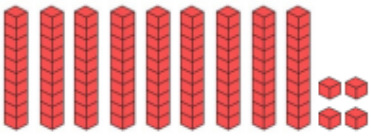
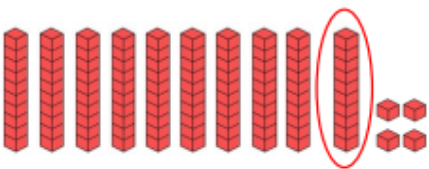
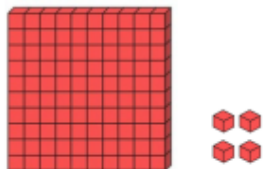
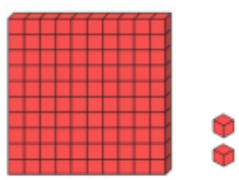
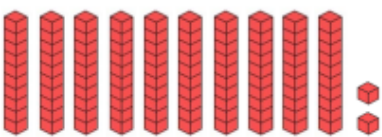
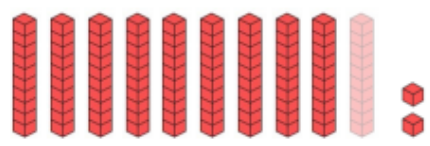
e. 13 \_\_\_ 33 43 \_\_\_ 63

j. 20 \_\_\_ \_\_\_ 50 \_\_\_ \_\_\_ \_\_\_

4. We learnt yesterday that subtracting or adding 10 can be done by imagining a number as hundreds, tens and ones, then just removing or adding 1 ten. Example:

Subtracting 10	Starting number	Adding 10
		
$56 - 10 = 46$	56	$56 + 10 = 66$

Sometimes, you will need to exchange 10 tens for 1 hundred or 1 hundred for 10 tens. Examples:

<p>94</p> 	<p><math>94 + 10</math></p> 	<p><math>94 + 10 = 104</math></p>  <p>10 lots of 10 = 100 so a new 100 is made.</p>
<p>102</p> 	<p><math>102 - 10</math></p> <p>We need to work with 10s so we break the hundred down into 10 lots of 10.</p> 	<p><math>102 - 10 = 92</math></p> <p>Then we can take one away.</p> 

To solve the problems below, draw the starting number as hundreds, tens and ones in Dienes to help you:

- $106 - 10$
  - $291 + 10$
  - $309 - 10$
  - $94 + 10$
5. Use your calculations from question 4 to answer these questions:
- Is it always, sometimes or never true that the ones digit changes?
  - Is it always, sometimes or never true that the tens digit changes?
  - Is it always, sometimes or never true that the hundreds digit changes?
6. Look at this pattern:
- $536 - 10 = 526$
- $526 - 10 = 516$
- $516 - 10 = 506$

- a. What is the 10th answer in this pattern (draw the numbers in Dienes if you need some help)?
- b. How do you know?

### Challenge

7. Henry says, "When I add 1000 to 4925 I only have to change 1 digit."
  - a. Is he correct?
  - b. Which digit or digits does he need to change?
  - c. Can you explain why?
8. Fran says that she can make the number that is 1000 less than 3512 using the number cards 1, 2, 3 and 4.
  - a. Do you agree?
  - b. Explain your answer.

Th	H	T	O
1000	100 100	10 10	1
1000	100 100	10	1

9.
  - a. Add one thousand to 2432
  - b. Add ten hundreds to 2432
  - c. What do you notice?
  - d. Why does this happen?