Tuesday 2nd June 2020

Multiplication and Division

Hi Yachts!

Mental Maths

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

Option 1: What must you add to 14 to reach 21? What about reaching 31 from 14? How about reaching 41? Now try 51. Do you notice a pattern?

Option 2: What must you do to 15 to reach 30? What must you do to 30 to reach 60? What must you do to 60 to reach 120? Do you notice a pattern?

Option 3: What must you do to 0.07 to reach 0.7? What must you do to 0.7 to reach 7? What must you do to 7 to reach 70? Do you notice a pattern?

Use the RUCSAC method to solve the problems:

R	Read	Read the question carefully.
U	Underline	Underline or write down the keywords and numbers.
C	Choose	Choose the correct operation (+ − x or ÷) and a mental or written method of calculation (you could use diagrams).
S	Solve	Solve it! Make sure you follow the steps carefully.
A	Answer	Check that you have answered the question properly. What did you need to find out in the first place?
C	Check	Check your answer. Use the inverse calculation or another checking technique (was it close to your estimate?)

1. Choose whether the answer to these questions about the 2 times table are always, sometimes or never. Then prove it with three calculations. I have given you an example:

Question	Always / Sometimes / Never	Prove it
Multiples of 2 are even	Always	1. 2 x 1 = 2 (even) 2. 2 x 2 = 4 (even) 3. 2 x 3 = 6 (even)
Multiples of 2 can be divided into 2 equal groups		1. 2.

		3.
46 is a multiple of 2		1. 2. 3.
Any multiples of 2 are also multiples of 10		1. 2. 3.
Multiples of 2 can be divided into 4 equal groups		1. 2. 3.

2. Greg visits the grocers with 24p. How many apples could he buy using all his money?

Apples
2p each

3. Greg now wants to share his apples equally between six friends. How many apples would each friend receive?

---

4. Complete each calculation to match the representation shown in the picture. I have explained how I solved the first one.

Tens	Ones
10 10	1 1
10 10	1 1
10 10	1 1
10 10	1 1

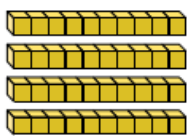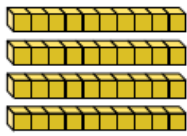| **22**	×	**4**	=	**88**

I solved this by:

- **Multiplying** the tens: I know that 2 x 4 = 8 so 2<u>0</u> x 4 = 8<u>0</u>.

  20 is ten times bigger than 2 (2 x 10 = 20) so the answer must be 10 times bigger as well (8 x 10 = 80).

- Then I **multiplied** the ones: 2 x 4 = 8

- Finally, I **added** the tens answer and the ones answer together (80 + 8 = 88).

Tens	Ones

a. ☐ × ☐ = ☐

Tens	Ones

b. ☐ × ☐ = ☐

5. Draw place value counters on each place value chart to represent the correct calculation.

32 × 3 = ☐

42 × 2 = ☐

Tens	Ones

a.

Tens	Ones

b.
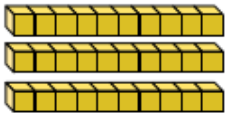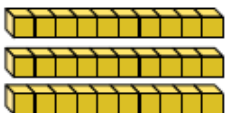
6. Jane used Dienes to represent 31 x 3. She got the answer 62. Can you spot her mistake?

Tens	Ones

$(2 \times 4) \times 3 = 2 \times (4 \times 3)$

Because $8 \times 3 = 2 \times 12 = 24$

$(2 \times 4) \times 3$ $2 \times (4 \times 3)$

7. Use your knowledge of number facts to solve these calculations:

    a. $8 \times 2 \times 2$ b. $4 \times 3 \times 4$ c. $10 \times 7 \times 3$

8. There are five boxes of cupcakes. Each box contains two rows of four.

    a. How many cupcakes are there altogether?

    b. Write the calculation for this problem.

    c. Draw a diagram to show this problem.

9. Look at these calculations. Which is the odd one out and why?
    a. $4 \times 2 \times 3$ b. $3 \times 4 \times 2$ c. $6 \times 2 \times 2$ d. $2 \times 3 \times 4$