18.1.21

WALT Mentally Multiply Three Numbers

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Quick Warm Up

Multiplying by multiples of 10.

Reminder:

$8 \times 20 = 160$

$8 \times 2 \times 10 = 16 \times 10$

Quick Warm Up

Multiplying by multiples of 10.

Try these questions:

1. $6 \times 20 = 120$
2. $4 \times 30 = 120$
3. $50 \times 5 = 250$
4. $7 \times 40 = 280$
5. $90 \times 6 = 540$
6. $8 \times 30 = 240$
7. $6 \times 70 = 420$
8. $80 \times 9 = 720$

Vocabulary

multiply multiplication

multiples odd even

number sentence

Mentally Multiply Three Numbers

Example:

$2 \times 3 \times 4 = 24$

1. Circle the two numbers you will multiply first.

   Then, multiply these two numbers.

   $2 \times 3 = 6$

2. Use the answer from step 1 and multiply it by the other number in the question – the number that you haven't circled. In this question, you need to multiply by 4.

   $6 \times 4 = 24$

Mentally Multiply Three Numbers

Let's Try a Question Together:

$4 \times 5 \times 2 = 40$

1. Circle the two numbers you will multiply first.

   Then, multiply these two numbers.

   $4 \times 5 = 20$

2. Multiply the answer from step 1 by the other number in the question – the number that you haven't circled. In this question, multiply by 2.

   $20 \times 2 = 40$

Mentally Multiply Three Numbers

Let's Try another Question Together:

$3 \times 3 \times 7 = 63$

1. Circle the two numbers you will multiply first.

   Then, multiply these two numbers.

   $3 \times 3 = 9$

2. Multiply the answer from step 1 by the other number in the question – the number that you haven't circled. Which number do you need to multiply by this time? 7

   $9 \times 7 = 63$

Hints and Tips – Look for Two Numbers that Multiply to Make 12 or Less

Now, look at this Question:

2 × 9 × 4 = 72

1. Circle the two numbers you will multiply first. This time it is easier to multiply 2 and 4 first because they make a number which is 12 or less.

   Then, multiply these two numbers.

   2 × 4 = 8

2. Multiply the answer from step 1 by the other number in the question – the number that you haven't circled. Which number do you need to multiply by this time? 9

   8 × 9 = 72

Hints and Tips – Look for Two Numbers that Multiply to Make 12 or Less

Let's do this Question Together:

$8 \times (3) \times (3) = \underline{72}$

1. Circle the two numbers you will multiply first. Which numbers do you think we should multiply first this time?

   It's easier to do 3 x 3 first because they make a number which is 12 or less.

   $3 \times 3 = \underline{9}$

2. Multiply the answer from step 1 by the other number in the question – the number that you haven't circled. Which number do you need to multiply by this time? 8

   $9 \times 8 = \underline{72}$

Hints and Tips – Multiply by 10 last

Let's do this Question Together:

$10 \times (4) \times (7) = 280$

1. Circle the two numbers you will multiply first..

   It's easy to multiply by 10 last

   $4 \times 7 = 28$

2. Multiply the answer from step 1 by the other number in the question – the number that you haven't circled. Which number do you need to multiply by this time? 10

   $28 \times 10 = 280$

Hints and Tips – Multiply by 10 last

Let's do this Question Together:

9 × 10 × 5 = 450

1. Circle the two numbers you will multiply first..

   Which numbers do you think we should multiply first this time?

   9 × 5 = 45

2. Multiply the answer from step 1 by the other number in the question – the number that you haven't circled. Which number do you need to multiply by this time? 10

   45 × 10 = 450

Hints and Tips – Look for Two Numbers that Multiply to Make a Multiple of 10

Now, look at this Question:

$7 \times (5) \times (6) = 210$

1. Circle the two numbers you will multiply first. This time it is easier to multiply 5 and 6 first because they make a number which is a multiple of 10.

   Then, multiply these two numbers.

   $5 \times 6 = 30$

2. Multiply the answer from step 1 by the other number in the question – the number that you haven't circled. Which number do you need to multiply by this time? 7

   $30 \times 7 = 210$

Hints and Tips – Look for Two Numbers that Multiply to Make a Multiple of 10

Let's do this Question Together:

$8 \times 9 \times 5 = 360$

1. Circle the two numbers you will multiply first. Which numbers do you think we should multiply first this time?

   Then, multiply these two numbers.

   $8 \times 5 = 40$

2. Multiply the answer from step 1 by the other number in the question – the number that you haven't circled. Which number do you need to multiply by this time? 9

   $40 \times 9 = 360$

Fluency

Look for Two Numbers that Multiply to Make 12 or Less

1	2	×	3	×	5	-
2	4	×	2	×	6	-
3	3	×	6	×	3	-
4	7	×	6	×	2	-
5	3	×	8	×	4	-

Multiply by 10 last

6	7	×	3	×	10	-
7	3	×	10	×	9	-
8	10	×	8	×	6	-
9	7	×	10	×	5	-

Look for Two Numbers that Multiply to Make a Multiple of 10

10	5	×	4	×	7	-
11	6	×	3	×	5	-
12	9	×	5	×	8	-

Reasoning 1

Work out the answers to these calculaitions:

2 x 10 x 2 - _____

4 x 5 x 2 - _____

2 x 5 x 3 - _____

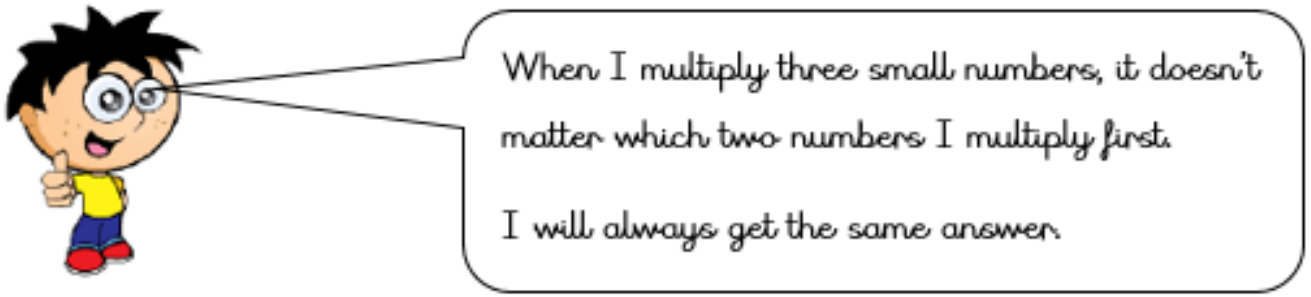
4 x 10 x 1 - _____

Which one is the odd one out?

Use a sentence starter to help your to explain your reasoning.

Reasoning 2

Gary is finding the answer to: $2 \times 3 \times 5$



Choose **two** different ways to work out the answer to: $2 \times 3 \times 5$

First, write down how you worked out the answer each time.

Then, use a sentence starter to explain whether you agree with Gary's idea.

Problem Solving 1

Which three numbers could be used to make this total?

☐ × ☐ × ☐ - 40

Explain how you knew which numbers to choose.

Can you find another way to solve this problem?

Problem Solving 2

Work out the missing numbers from these number sentences.

1. _____ × 4 × 5 - 100
2. 3 × 10 × _____ - 180
3. 7 × _____ × 3 - 63
4. _____ × 9 × 6 - 108
5. 4 × 2 × ___ - 88
6. 2 × _____ × 10 - 180

Extra Practice

If you finish your work quickly or if you want to do some more practice of your times tables, you could use 'Hit the Button'.
https://www.topmarks.co.uk/maths-games/hit-the-button

Remember that you can also practise your tables facts using 'Daily 10'.
https://www.topmarks.co.uk/maths-games/daily10

Finally, practise counting in 6s, 7s and 9s, both forwards and backwards, up to 12x the number you are counting until you can do this without stopping or making a mistake.