

TUESDAY

LO: Recognise and use factor pairs and commutativity in mental calculations.

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# Recap

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Double the following numbers:

➤ 42

➤ 7

➤ 39

➤ 108

➤ 326

➤ 1503

➤ 2508

Challenge : Which ones are harder to double? Explain why.

*Answer*

# Recap

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Double the following numbers:

➤  $42 \times 2 = 84$

➤  $7 \times 2 = 14$

➤  $39 \times 2 = 78$

➤  $108 \times 2 = 216$

➤  $326 \times 2 = 652$

➤  $1503 \times 2 = 3006$

➤  $2508 \times 2 = 5016$

Challenge : Which ones are harder to double? Explain why.

Does  $4 \times 8 = 4 \times 2 \times 4$ ?

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Prove it.

Does  $4 \times \underline{8} = 4 \times \underline{2} \times \underline{4}$ ? Prove it.

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$4 \times \underline{8} = 32$  which gives the same product as

$4 \times \underline{2 \times 4} = 32$

8 in  $4 \times 8$  is replaced by its factor pair  $2 \times 4$

Complete the following equations using factor pairs

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$$3 \times 10 = 3 \times \underline{5} \times \underline{\quad}$$

$$5 \times 9 = 5 \times \underline{\quad} \times \underline{\quad}$$

Complete the following equations using factor pairs

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$$3 \times 10 = 3 \times \underline{5} \times \underline{2}$$

$$5 \times 9 = 5 \times \underline{3} \times \underline{3}$$

How can we use our factor knowledge to solve:

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$$\boxed{?} \times \boxed{?} = 40$$



How can we use our factor knowledge to solve:

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$$\boxed{?} \times \boxed{?} = 40$$

The following factor pairs can fit in the boxes to solve this:

i.      1 X      40      = 40

ii.     2 X      20      = 40

iii.    4 X      10      = 40

iv.     5 X      8        = 40

# Task – Use your knowledge of factors to complete the following:

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1. Emma says 7 is a factor of 37. Do you agree with her? Justify your answer.
2. Always, sometimes, never. Even numbers have an even number of factors and odd numbers have an odd number of factors.
3. Fill in the missing numbers  $\square \times \square = 30$
4. Use the numbers **1, 3, 4, 12, 16, 48** to complete these multiplication sentences. You can only use each number once.

$$\square \times \square = 48$$

$$48 = \square \times \square$$

$$\square \times \square = 48$$

# Task – Use your knowledge of factors to complete the following:

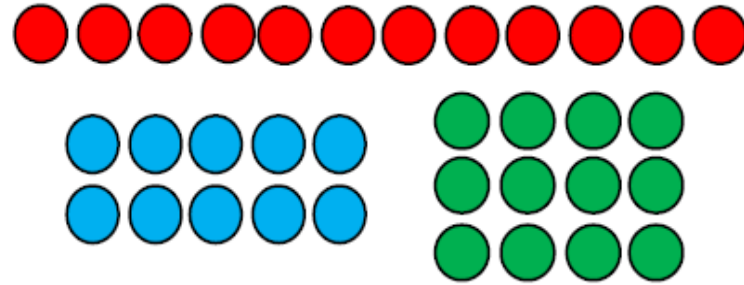
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5. Write the age of all the members of your family in numbers. Now find all the factors of all the numbers.

6. Use counters to solve:



What factor pairs for 12 do these arrays show?



Use counters to create arrays for 24. How many factor pairs can you find?

7. Ella the Egyptian says: The bigger the number, the more factor pairs it will have. Do you agree with Ella? Explain why/ why not.