

Mental Math for Multiplication

Multiplication can be made easier too!

Consider this problem: 50×18

In this strategy, one factor “gives” to the other.

$$(50 \times 2) \times (18 \div 2)$$

Look at the problem carefully to see how it's done.

$$50 \times 18$$

$$(50 \times 2) \times (18 \div 2) =$$

$$100 \times 9 = 900$$

$$50 \times 18 = 900$$

$$25 \times 12$$

Remember, divide one factor and multiply the other by the same number.

What are the “factors” of 12?

{1, 2, 3, 4, 6, 12}

$$25 \times 12$$

{1, 2, 3, 4, 6, 12}

Think, “which of these factors could I multiply 25 by to get a number that is easy to work with?”

$$25 \times 4 = 100$$

$$25 \times 12$$

Multiply the first factor (25) by 4. Divide the second factor (12) by 4.

$$(25 \times 4) \times (12 \div 4)$$

$$100 \times 3 = 300$$

$$125 \times 16$$

This one is a little more difficult.

You can use more than one step.

Remember, the object is to make one of the numbers easier to work with.

$$125 \times 16$$

Think, “what are the factors of each of the numbers?”

$$125 \quad \{ 1, 5, 25, 125 \}$$

$$16 \quad \{ 1, 2, 4, 8, 16 \}$$

Can you multiply one number by one of the factors of the other number to get a number that is easy to work with?

$$125 \times 16$$

$$125 \{ 1, 5, 25, 125 \}$$

$$16 \{ 1, 2, 4, 8, 16 \}$$

Multiplying 125×4 gives us 500 .

$$(125 \times 4) \times (16 \div 4)$$

$$500 \times 4 = 2000$$

$$25 \times 44$$

You should recognize the factors that can easily make 100.

What number can you multiply 25 by to get 100? 4

Is 4 a factor of 44?

Yes, $4 \times 11 = 44$

$$25 \times 44$$

Since 4 is a factor of 44, and $25 \times 4 = 100$, we will multiply 25 by 4 and divide 44 by 4 to make this problem easier.

$$(25 \times 4) \times (44 \div 4)$$

$$100 \times 11 = 1100$$

Now you try it.

Write 3 multiplication problems that you the strategy you just learned. Use words to explain how to apply the strategy to the problem.

