Mental multiplication strategies – compensation

Use the compensation strategy to make it easier to multiply 2-digit numbers that are close to a ten.

Look at 4×19 .

19 is close to 20, so we can multiply by the next multiple of ten which is 20. Then we build down because we have an extra group of 4.

$$4 \times 19 \longrightarrow 4 \times 20 = 80 - 4$$

So, $19 \times 4 = 76$

Use the compensation strategy to answer these:

a
$$5 \times 29 \longrightarrow 5 \times \boxed{} = \boxed{} - \boxed{}$$
So, $5 \times 29 = \boxed{}$

Use the compensation strategy to answer these questions. This time you need to look for more than one extra group to subtract:

a
$$4 \times 18 \longrightarrow 4 \times \boxed{} = \boxed{} - \boxed{}$$
So, $4 \times 18 = \boxed{}$

We have rounded up to 20. So instead of 4 × 18 we have 4 × 20. This is 2 more groups of 4. So we subtract 8. **(**

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THINK



Mental multiplication strategies – compensation strategy

When multiplying we can round to an easier number and then adjust.

Look how we do this with 4×29

29 is close to 30. We can do 4×30 in our heads because we know $4 \times 3 = 12$

$$4 \times 30 = 120$$

We have to take off 4 because we used one group of 4 too many: $120 - (1 \times 4) = 116$

$$4 \times 29 = 116$$

Use the compensation strategy to answer the questions. The first one has been done for you.

We can also adjust up. Look how we do this with 6×62 :

62 is close to 60. We can do 6×60 in our heads because we know $6 \times 6 = 36$

$$6 \times 60 = 360$$

We have to then add 2 more lots of 6: 360 + 12 = 372

$$6 \times 62 = 372$$

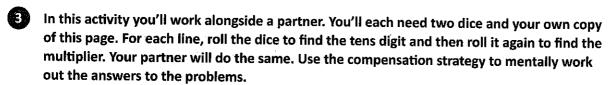
2 Use the compensation strategy and adjust up for these. The first one has been done for you.

Would I use the compensation strategy with numbers such as 56 or 84? Why or why not?



THINK

Mental multiplication strategies – compensation strategy





Tens	Units		Multiplier	Answer
	1	×	=	
,	9	×	=	
	2	×	=	
	1	×	=	
7	8	×	=	
	1	×	=	
	9	×	=	
	8	×	=	
	2	×	=	
	1	*	=	

- a Check each other's calculations. You may want to use a calculator.
- **b** Now, use the calculator to add your answers. The person with the highest score wins.

