Names (pair) _____ Date _____

Whole Numbers: Puzzles and Review

1 IN PAIRS **Do we stay in the natural numbers?** For each operation, decide whether two natural numbers always give a natural number. If not, write a counterexample.

operation	always a natural number?	counterexample
addition	**yes** / **no**	
multiplication	**yes** / **no**	
subtraction	**yes** / **no**	
division	**yes** / **no**	

For calculations that leave $\mathbb{N}$ we will soon need new numbers: integers and fractions.

2 ON YOUR OWN **Calculation chain.** Start at 48 and work along the chain.

$48 \rightarrow \div 6 \rightarrow$ ☐ $\rightarrow \times 7 \rightarrow$ ☐ $\rightarrow -20 \rightarrow$ ☐ $\rightarrow \div 4 \rightarrow$ ☐ $\rightarrow \times 111 \rightarrow$ ☐

3 IN PAIRS Using the digits 3, 5 and 8 (each once), make a product ☐☐ $\times$ ☐ that is as large as possible. Compare answers in pairs.

☐ $\times$ ☐ $=$ ☐

4 IN A GROUP CHALLENGE **Magic square.** Write the numbers 1 to 9 (each once) so that every row, column and both diagonals add up to 15.

2		6
	5	

5 ON YOUR OWN **Review.** Work out.

the number before $10{,}000$ ☐

$7{,}450$ rounded to the nearest thousand ☐

$4{,}006 - 1{,}999 =$ ☐

$25 \times 36 =$ ☐

$1{,}000 \div 8 =$ ☐

the remainder of $97 \div 4$ ☐

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6 IN PAIRS True or false? Correct the false statements.

The smallest natural number is 0. **true / false**

Correction: _____

The sum of two natural numbers is always a natural number. **true / false**

Correction: _____

For every number a, $a \times 0 = a$. **true / false**

Correction: _____

$5 + 3 \times 2 = 16$ **true / false**

Correction: _____

How am I doing?

I can...	confidently	mostly	need practice
read and write large numbers and say what a digit is worth	☐	☐	☐
round a number and estimate an answer	☐	☐	☐
add and subtract mentally in several ways	☐	☐	☐
add and subtract in writing, with carrying and exchanging	☐	☐	☐
multiply and divide in writing, including with a remainder	☐	☐	☐
solve a word problem with a bar model and follow the order of operations	☐	☐	☐

The Bar Model app · otooly.com/bar-model

In each mode press **New task** to get new stories with the unknown in different places. Solve them in your exercise book, then reveal the answer.