## Number Patterns and Mental Maths Tricks

## Multiplication Short Cuts

Complete these flow diagrams:


What do you notice about the three flow diagrams above?
$\qquad$
$\qquad$
What shortcut can we use when multiplying by 6 ?
$\qquad$
$\qquad$
Which shortcut is easier for you to use? Why do you say so?
$\qquad$
$\qquad$

Complete these flow diagrams:


## $22222222222222222^{2}$

What do you notice about the two flow diagrams above?
$\qquad$
$\qquad$
What shortcut can we use when multiplying by 5 ?
$\qquad$
$\qquad$
Is this shortcut easier or harder than multiplying by 5 for you? Why?
$\qquad$
$\qquad$

Complete these flow diagrams:


What do you notice about the two flow diagrams above?
$\qquad$
$\qquad$
What shortcut can we use when multiplying by $100 ?$
$\qquad$
$\qquad$
Is this shortcut easier or harder for you? Why?

Make up your own shortcut using the flow diagrams below and show that it works:


What is your shortcut?

## Number Patterns and Mental Maths Tricks Answers

Complete these flow diagrams:


What do you notice about the three flow diagrams above?
All the answers are the same for the same input.
What shortcut can we use when multiplying by 6?
We can first multiply the number by 3 and then by 2, or multiply by 2 and then by 3.
Which shortcut is easier for you to use? Why do you say so?
Learners can choose either option as long as their reason is valid.

Complete these flow diagrams:


What do you notice about the two flow diagrams above?
All the answers are the same for the same input.
What shortcut can we use when multiplying by 5 ?
We can first multiply by 10 and then divide by 2.
Is this shortcut easier or harder than multiplying by 5 for you? Why?
Learners can choose either option as long as their reason is valid.
Complete these flow diagrams:



What do you notice about the two flow diagrams above?
All the answers are the same for the same input.
What shortcut can we use when multiplying by $100 ?$
We can multiply by 10 and then multiply by 10 again.
Is this shortcut easier or harder for you? Why?
Learners can choose either option as long as their reason is valid.

Make up your own shortcut using the flow diagrams below and show that it works: These are for the learners. You will need to check their logic and make sure that it makes sense.

