

2 EQUATION PATTERNS

1 Complete each number pattern.

Use the number pattern to find the number that goes in the gap.

a $2 \times 4 =$	b $4 \times 11 =$
$22 \times 4 =$	$44 \times 11 =$
$222 \times 4 =$	$444 \times 11 =$
$2222 \times 4 =$	$4444 \times 11 =$
$2222222 \times 4 =$	$4444444 \times 11 =$

c $7 \times 6 =$
 $67 \times 66 =$
 $667 \times 666 =$
 $6667 \times 6666 =$
 $666667 \times 666666 =$

2 $9 \times 5 = 45$	$9 \times 6 = 54$	$37 \times 99 = 3663$
$99 \times 55 = 5445$	$99 \times 66 = 6534$	$37 \times 999 = 36963$
$999 \times 555 = 554445$	$999 \times 666 = 665334$	$37 \times 9999 = 369963$
$9999 \times 5555 = 55544445$	$9999 \times 6666 = 66653334$	$37 \times 99999 = 3699963$

Use the above number patterns to find the answer to these.

a 9999999×5555555 b 999999×666666 c 37×9999999

3 a What is the number pattern in the answers?
 b Use this pattern to find the answer to 987654321×81 .

$1 \times 81 = 81$
$21 \times 81 = 1701$
$321 \times 81 = 26001$
$4321 \times 81 = 350001$
$54321 \times 81 = 4400001$
$654321 \times 81 = 53000001$
$7654321 \times 81 = 620000001$
$87654321 \times 81 = 7100000001$

4 a Complete each of these.

i $1089 \times 1 =$
 ii $1089 \times 2 =$
 iii $1089 \times 3 =$
 iv $1089 \times 4 =$
 v $1089 \times 5 =$
 vi $1089 \times 6 =$

b Use the number pattern found in a to find the answer to these.

i $1089 \times 7 =$
 ii $1089 \times 8 =$
 iii $1089 \times 9 =$

5 a Complete these.

i $9109 \times 1 = 9109$	Sum of answer digits = $9 + 1 + 0 + 9 = 19$
ii $9109 \times 2 =$	Sum of answer digits =
iii $9109 \times 3 =$	Sum of answer digits =
iv $9109 \times 4 =$	Sum of answer digits =

b Use the number pattern found in a to find the sum of the digits in the answer to 9109×8 .

6 Complete these.

1	=	1	=	1	$\times$	1
$1 + 3$	=	4	=	2	$\times$	2
$1 + 3 + 5$	=	_____	=	3	$\times$	3
$1 + 3 + 5 + 7$	=	_____	=	_____		
$1 + 3 + 5 + 7 + 9$	=	_____	=	_____		

