

WA5MNAUN3

Understanding number

Core + Challenge

NAPLAN-style

Place Value to Seven Digits — Marking Key

I can partition numbers up to seven digits and use '10 times' to explain the value of a digit.

For tutors and parents. Award method marks for correct working even if the final answer is wrong.

Marks summary

A Warm up: 16 B Practise: 21 C Think it through: 10 D Challenge: 9 **Total: 56**

Gold shading in this key shows what the child should have shaded or drawn. Accept any correct arrangement unless the question fixes it.

A

Warm up answers

/ 16 marks

Q	Answer	Model answer / notes	Marks
1	2 041 300	2 millions, 4 ten thousands, 1 thousand, 3 hundreds.	1
2	1 205 060	1 million, 2 hundred thousands, 5 thousands, 6 tens.	1
3	3 000 402	3 millions, 4 hundreds, 2 ones.	1
4	1 110 011	1 million, 1 hundred thousand, 1 ten thousand, 1 ten, 1 one.	1
5	60 000	The 6 is in the ten thousands place.	1
6	8 000 000	The 8 is in the millions place.	1
7	30 000	The 3 is in the ten thousands place.	1
8	90	The 9 is in the tens place.	1

9 2 300 104 shown

M	HTh	TTh	Th	H	T	O
● ●	● ● ●			●		● ● ● ●

2 in M, 3 in HTh, 1 in H, 4 in O.

1

10 1 020 030 shown

M	HTh	TTh	Th	H	T	O
●		● ●			● ● ●	

1 in M, 2 in TTh, 3 in T.

1

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Q	Answer	Model answer / notes	Marks																					
11	4 001 200 shown	<table><tr><th>M</th><th>HTh</th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> 4 in M, 1 in Th, 2 in H.	M	HTh	TTh	Th	H	T	O															1
M	HTh	TTh	Th	H	T	O																		
																								
12	1 111 000 shown	<table><tr><th>M</th><th>HTh</th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> 1 in M, 1 in HTh, 1 in TTh, 1 in Th.	M	HTh	TTh	Th	H	T	O															1
M	HTh	TTh	Th	H	T	O																		
																								
13	300 000	3 ten thousands $\times 10 = 3$ hundred thousands.	1																					
14	10	10 hundred thousands make 1 million.	1																					
15	40 000	$40 \times 1000 = 40\ 000$.	1																					
16	500	$5000 \div 10 = 500$, so 500 tens.	1																					

B Practise *answers and working*

/ 21 marks

Q	Answer	Working / sample response	Marks								
1	See table	<table><tr><th>Number</th><th>Standard partition</th></tr><tr><td>3 406 250</td><td>3 000 000 + 400 000 + 6000 + 200 + 50</td></tr><tr><td>6 050 708</td><td>6 000 000 + 50 000 + 700 + 8</td></tr><tr><td>2 904 030</td><td>2 000 000 + 900 000 + 4000 + 30</td></tr></table>	Number	Standard partition	3 406 250	3 000 000 + 400 000 + 6000 + 200 + 50	6 050 708	6 000 000 + 50 000 + 700 + 8	2 904 030	2 000 000 + 900 000 + 4000 + 30	3
		Number	Standard partition								
		3 406 250	3 000 000 + 400 000 + 6000 + 200 + 50								
		6 050 708	6 000 000 + 50 000 + 700 + 8								
		2 904 030	2 000 000 + 900 000 + 4000 + 30								
$3\,406\,250 = 3\,000\,000 + 400\,000 + 6000 + 200 + 50.$											
$6\,050\,708 = 6\,000\,000 + 50\,000 + 700 + 8.$											
$2\,904\,030 = 2\,000\,000 + 900\,000 + 4000 + 30.$											
<i>1 mark for each correct row.</i>											

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Q	Answer	Working / sample response	Marks														
2	a) 450 000 b) 300 000 c) 1 550 000	a) <table><tr><td colspan="2">1 450 000</td></tr><tr><td>1 000 000</td><td>450 000</td></tr></table> b) <table><tr><td colspan="3">2 306 000</td></tr><tr><td>2 000 000</td><td>300 000</td><td>6000</td></tr></table> c) <table><tr><td colspan="2">1 550 000</td></tr><tr><td>900 000</td><td>650 000</td></tr></table> a) $1\,450\,000 - 1\,000\,000 = 450\,000$. b) $2\,306\,000 = 2\,000\,000 + 300\,000 + 6000$. c) $900\,000 + 650\,000 = 1\,550\,000$ (15 hundred thousands + 50 thousands). <i>1 mark each bar.</i>	1 450 000		1 000 000	450 000	2 306 000			2 000 000	300 000	6000	1 550 000		900 000	650 000	3
1 450 000																	
1 000 000	450 000																
2 306 000																	
2 000 000	300 000	6000															
1 550 000																	
900 000	650 000																
3	No, still 2 305 000	<table><tr><th>M</th><th>HTh</th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td>●●</td><td>●●</td><td>●●●●●●●●</td><td>●●●●●</td><td></td><td></td><td></td></tr></table> New chart: 2 M, 2 HTh, 10 TTh, 5 Th. 1 hundred thousand = 10 ten thousands, so the total is the same: 2 305 000. <i>1 mark: counters drawn correctly.</i> <i>1 mark: says the number is the same, with a reason.</i>	M	HTh	TTh	Th	H	T	O	●●	●●	●●●●●●●●	●●●●●				2
M	HTh	TTh	Th	H	T	O											
●●	●●	●●●●●●●●	●●●●●														
4	a) 425 b) 42	a) $4\,250\,000 = 425$ ten thousands, so 425 bundles. b) $4\,200\,000 = 42$ hundred thousands, so 42 bundles. <i>1 mark each part.</i>	2														
5	a) 400 000 and 40 000 b) 10 times	a) In 3 400 000 the 4 is in the hundred thousands place; in 3 040 000 it is in the ten thousands place. b) One place to the left is worth 10 times as much: $40\,000 \times 10 = 400\,000$. <i>1 mark: both values.</i> <i>1 mark: 10 times.</i>	2														
6	a) 5 030 406 b) 7 000 620	5 304 006 5 030 406 5 034 006 5 300 406 a) 5 millions, 3 ten thousands, 4 hundreds, 6 ones: 5 030 406. b) 7 millions, 6 hundreds, 2 tens: 7 000 620. <i>1 mark each part.</i>	2														

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Q	Answer	Working / sample response	Marks																												
7	a) 4 000 000 km b) 4 000 090 km	a) $3\,999\,990 + 10$: 9 tens + 1 ten = 10 tens, which carries all the way up: 4 000 000. b) $3\,999\,990 + 100 = 4\,000\,000 + 90 = 4\,000\,090$. <i>1 mark each part.</i>	2																												
8	5 000 000, 50 000, 5000	<table><thead><tr><th>Millions</th><th>Hundred thousands</th><th>Ten thousands</th><th>Thousands</th><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>5</td><td>0</td><td>6</td><td>2</td><td>3</td><td>0</td><td>0</td></tr><tr><td></td><td>3</td><td>5</td><td>0</td><td>2</td><td>1</td><td>4</td></tr><tr><td>1</td><td>2</td><td>0</td><td>5</td><td>0</td><td>0</td><td>0</td></tr></tbody></table> 5 062 300: the 5 is worth 5 000 000. 350 214: the 5 is worth 50 000. 1 205 000: the 5 is worth 5000. <i>1 mark: all digits placed.</i> <i>2 marks: all three values (1 mark for two).</i>	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones	5	0	6	2	3	0	0		3	5	0	2	1	4	1	2	0	5	0	0	0	3
Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones																									
5	0	6	2	3	0	0																									
	3	5	0	2	1	4																									
1	2	0	5	0	0	0																									
9	e.g. 12 hundred thousands; 120 ten thousands	12 hundred thousands = 1 200 000. 120 ten thousands = 1 200 000. Also: 11 hundred thousands + 10 ten thousands, 10 hundred thousands + 20 ten thousands, ... <i>1 mark for each correct way.</i>	2																												

C

Think it through *sample answers and criteria*

/ 10 marks

Q	Answer	Working / sample response	Marks
1	No	Each 3 is in a different place, so it has a different value: 3 000 000, 300 000, 30 000, 3000, 300, 30, 3. Each 3 is worth 10 times the 3 on its right. <i>1 mark: disagrees.</i> <i>1 mark: gives the different values or the $\times 10$ idea.</i>	2
2	False	$1000 \times 1000 = 1\,000\,000$, so 1 million = 1000 thousands. 10 000 thousands = 10 000 000 (ten million). <i>1 mark: False.</i> <i>1 mark: 1000 thousands (or shows 10 000 thousands is 10 million).</i>	2
3	Always	The millions digit is at least 1, so it is worth at least 1 000 000. All the other digits together are worth at most 999 999. <i>1 mark: Always.</i> <i>1 mark: compares 1 000 000 with 999 999 (or a clear example with reasoning).</i>	2

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Q	Answer	Working / sample response	Marks
		4 000 000 + 350 000 435 ten thousands 4350 thousands 435 thousands	
4	435 thousands	4 000 000 + 350 000, 435 ten thousands and 4350 thousands all equal 4 350 000. 435 thousands = 435 000, which is much smaller. <i>1 mark: 435 thousands.</i> <i>1 mark: shows the other three equal 4 350 000.</i>	2
5	See working	Same: both have 7 digits, a 6 in the millions place, one 2 and five zeros. Different: the 2 is worth 20 000 in the first and 200 000 in the second (10 times more), so 6 200 000 is bigger. <i>1 mark: something the same.</i> <i>1 mark: explains the different value of the 2.</i>	2

D Challenge *solutions and criteria*

/ 9 marks

Q	Answer	Working / sample response	Marks
1	a) 6 000 000 b) 1 000 005 c) 3 300 000	a) All 6 counters in the millions: 6 000 000. b) 1 counter in the millions, the other 5 in the ones: 1 000 005. c) 3 500 000 needs 8 counters. With 3 in the millions you can put 3 in the hundred thousands: 3 300 000 (200 000 away). With 4 in the millions the smallest is 4 000 002 (about 500 000 away). <i>1 mark each part (part c needs a reason).</i>	3
2	a) 4 560 000 b) 70 300 c) 100 times	a) 45 600 → 456 000 → 4 560 000. b) Work backwards, ÷ 10 twice: 7 030 000 → 703 000 → 70 300. c) × 10 then × 10 is × 100: every digit moves two places left. <i>1 mark each part.</i>	3
3	a) 1000 b) 10 000 c) 100 000	a) $1000 \times 1000 = 1\,000\,000$. b) Hundreds are 10 times smaller than thousands, so you need 10 times as many: 10 000. c) 10 times as many again: 100 000. Pattern: each place to the right needs 10 times as many. <i>1 mark each part (part c needs the pattern).</i>	3