Topic 8 - Place Value

1	Nicola multiplies the smallest four-digit whole number by the largest two-digit whole number. What is the answer? **A** 99 000 **B** 99 990 **C** 990 000 **D** 999 900 **E** 999 999

2	Kim and Jamie each think of a different whole number that is greater than zero and less than 50. Kim's number is a multiple of 5. Jamie's number is an even number which is a multiple of 7. What is the difference between the **largest** possible value of Kim's number and the **smallest** possible value of Jamie's number? **A** 31 **B** 36 **C** 38 **D** 39 **E** 43

3	Alinta and Tau both round the number 4 850 000. Alinta rounds the number to the nearest million. Tau rounds the number to the nearest hundred thousand. What is the difference between their answers? **A** 0 **B** 50 000 **C** 100 000 **D** 150 000 **E** 200 000

4	In our number system, the value represented by a digit depends on its position. For example, in the number 273, the digit 7 represents 70. In the number 30 060, how many times larger is the value represented by the digit 3 than the value represented by the digit 6? **A** 50 times **B** 100 times **C** 500 times **D** 1000 times **E** 2000 times

5	Mateo is thinking of a whole number. If he multiplies his number by 3, the answer is less than 30. If he multiplies his number by 6, the answer is greater than 40. There is more than one number Mateo could be thinking of. What is the sum of all of the numbers Mateo could be thinking of? **A** 7 **B** 13 **C** 15 **D** 17 **E** 24

6

Jamal makes a number sequence. He chooses the 1st number in the sequence.

Then he follows these two rules, one after the other, repeatedly:

- Subtract 100 to get the next number in the sequence.
- Add 10 to get the next number in the sequence.

The 6th number in the sequence is 8451.

What is the 1st number in Jamal's sequence?

A 8171

B 8181

C 8711

D 8721

E 8731

7

Timothy writes down the number 24. He reverses the digits to make the number 42. He then works out that 42 is 18 more than his starting number, 24.

Nicole writes down a whole number between 10 and 99. She also reverses the digits of her number. She finds that this makes a number that is 72 more than her starting number.

What was the last digit of Nicole's starting number?

A 2

B 3

C 5

D 7

E 9

Personalised English & Math Tutoring

Redeem Free Assessment

Answer Key

1	The smallest four-digit whole number is 1000. The largest two-digit whole number is 99. So multiplying the smallest four-digit whole number by the largest two-digit whole number is 1000 × 99 = 99 000. The correct answer is **A 99 000**.
2	Kim's number is a multiple of 5 so it must end with a 5 or a 0. Kim's number is less than 50, so the largest possible value for Kim's number is 45. Jamie's number is even and is also a multiple of 7. The smallest number greater than zero which is both a multiple of 7 and an even number is 14 because 2 × 7 = 14. So the difference between the largest possible value of Kim's number and the smallest possible value of Jamie's number is 45 – 14 = 31. The correct answer is **A 31**.
3	Alinta rounds 4 850 000 to the nearest million. 4 850 000 is between 4 000 000 and 5 000 000. The hundred thousands digit is an 8, so Alinta rounds the number up to 5 000 000. Tau rounds 4 850 000 to the nearest hundred thousand. 4 850 000 is between 4 800 000 and 4 900 000. The ten thousands digit is a 5, so Tau rounds the number up to 4 900 000. The difference between their answers is 5 000 000 – 4 900 000 = 100 000, so the correct answer is **C 100 000**.

4	In the number 30 060, the value represented by the digit 3 is 30 000, and the value represented by the digit 6 is 60, so we need to work out how many times larger 30 000 is than 60. 60 000 is 1 000 times larger than 60, and 30 000 is half of 60 000, so 30 000 is 500 times larger than 60. So the correct answer is **C 500 times**. Alternatively, 30 000 ÷ 60 is the same as 3000 ÷ 6 which is 500. Or starting from 60 and multiplying: 5 × 60 = 300 50 × 60 = 3000 500 × 60 = 30 000 So the value represented by the digit 3 is 500 times the value represented by the digit 6.
5	E
6	E
7	E