



# Number Brainteasers

I can solve number and place value reasoning problems.



A number has a 2 in the tens place, a 3 in the ones place and a 7 in the thousands place. It has 5 digits. The digit total of the number is 18.

What could the number be?

**3.2   2.3   1.2   2.1   1.3   3.1**

Felix puts these numbers in order from smallest to biggest.

**1.3   1.2   2.1   2.3   3.2   3.1**

He has made some mistakes.

Can you circle his mistakes and write the numbers in order below?

Circle the numbers that round to 2000 to the nearest 1000.

**1823   2501   1499   1750   2367   2280**

Stacey thinks there are five possible whole numbers that could fit in the box.

**23 459 <  < 23 465**

Is she right? What are the numbers that could fit in the box?

Bradley takes the temperature in his garden for five days.

Day 1	Day 2	Day 3	Day 4	Day 5
-3°C	0°C	-2°C	3°C	-1°C

What was the highest temperature Bradley recorded?

What was the difference between the highest and the lowest temperature?

Blake counts in 300s starting at 1200. What is the first number higher than 2500 that he will count?



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**3.23 3.32 2.23 2.32 23.3 32.3**

Rosa puts these numbers in order from highest to lowest.

**32.3 23.3 3.32 2.32 3.23 2.23**

She has swapped 2 numbers by accident. Can you circle the numbers she has mixed up, and write the numbers in the correct order below?

How many whole numbers could fit into the box below?

$$-5 < \boxed{\phantom{000000}} < 5$$

Write the numbers in order below, from lowest to highest.

Circle two numbers that round to 65 000 to the nearest thousand when added together.

**45 876 22 100 18 750 43 520 15 632**

Verity is thinking of a number. It has 6 digits and its digit total is 12. The digit in the hundreds place is a 5. What could the number be? Give 3 possibilities.

Josh counts in 1000s, starting from 27 932. What is the fifth number that he will count?

Megan is getting ready to go on a winter holiday to Finland. The temperature where she lives in Manchester is 9°C.

She checks the temperature in Helsinki and finds that it is -7°C.

What is the difference in temperature between the two places?



# Number Brainteasers

I can solve number and place value reasoning problems.



Many different numbers could fit into the box below:

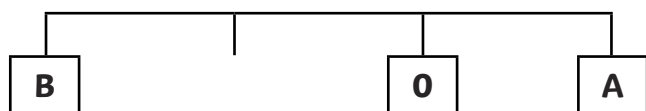
$$3.4 < \boxed{\phantom{00000}} < 3.6$$

Give all the possibilities with 2 decimal places that would round to 3 to the nearest whole number.

Which of these numbers round to 1 million to the nearest 10?

**999 994   1 000 004   999 997   1 000 009**

The difference between A and B is 60. Give the values of A and B.



Elliot is thinking of a 6-digit number. It has a 4 in the thousands place. The hundreds digit is half of the hundred thousands digit. The ones digit is double the thousands digit. Its digit total is 24. What could Elliot's number be?

If you put these numbers in order from lowest to highest, which number will be the third one? Round this number to the nearest 1000.

**32 874   30 292   32 845   32 901   34 493**

Starting at 45 872, count backwards in 10 000s. How many steps will it take to get as close to zero as possible without going into negative numbers?

What number will you reach?

Round this number to the nearest 100.



# Number Brainteasers **Answers**

A number has a 2 in the tens place, a 3 in the ones place and a 7 in the thousands place. It has 5 digits. The digit total of the number is 18.

What could the number be?

*Possible answers: 37323, 27423, 47223, 67023, 17523, 57123.*

**3.2   2.3   1.2   2.1   1.3   3.1**

Felix puts these numbers in order from smallest to biggest.

**1.3   1.2   2.1   2.3   3.2   3.1**

He has made some mistakes.

Can you circle his mistakes and write the numbers in order below?

**1.2   1.3   2.1   2.3   3.1   3.2**

Circle the numbers that round to 2000 to the nearest 1000.

**1823   2501   1499   1750   2367   2280**

Stacey thinks there are five possible whole numbers that could fit in the box.

**23 459 <  < 23 465**

Is she right? What are the numbers that could fit in the box?

*She is correct. The numbers are 23 460, 23 461, 23 462, 23 463, 23 464.*

Bradley takes the temperature in his garden for five days.

Day 1	Day 2	Day 3	Day 4	Day 5
-3°C	0°C	-2°C	3°C	-1°C

What was the highest temperature Bradley recorded? **3°C**

What was the difference between the highest and the lowest temperature? **6°C**

Blake counts in 300s starting at 1200. What is the first number higher than 2500 that he will count?

**2700**



# Number Brainteasers **Answers**

**32.3 3.32 2.23 2.32 23.3 32.3**

Rosa puts these numbers in order from highest to lowest.

**32.3 23.3 3.32 (2.32) (3.23) 2.23**

She has swapped 2 numbers by accident. Can you circle the numbers she has mixed up, and write the numbers in the correct order below?

**32.3 23.3 3.32 3.23 2.32 2.23**

How many whole numbers could fit into the box below?

*9 numbers could fit in the box.*

**-5 <  < 5**

Write the numbers in order below, from lowest to highest.

**-4, -3, -2, -1, 0, 1, 2, 3, 4**

Circle two numbers that round to 65 000 to the nearest thousand when added together.

**(45 876) 22 100 (18 750) 43 520 15 632**

Verity is thinking of a number. It has 6 digits and its digit total is 12. The digit in the hundreds place is a 5. What could the number be? Give 3 possibilities.

*Multiple possible answers, including:*

**121 512**

**130 521**

**210 540**

Josh counts in 1000s, starting from 27 932. What is the fifth number that he will count?

**32 932**

Megan is getting ready to go on a winter holiday to Finland. The temperature where she lives in Manchester is 9°C.

She checks the temperature in Helsinki and finds that it is -7°C.

What is the difference in temperature between the two places?

*The difference is 16°C.*



# Number Brainteasers **Answers**

Many different numbers could fit into the box below:

$$3.4 < \boxed{\phantom{00000}} < 3.6$$

Give all the possibilities with 2 decimal places that would round to 3 to the nearest whole number.

**3.41, 3.42, 3.43, 3.44, 3.45, 3.46, 3.47, 3.48, 3.49**

Which of these numbers round to 1 million to the nearest 10?

999 994   **1 000 004**   **999 997**   1 000 009

The difference between A and B is 60. Give the values of A and B.



$$A = 20$$

$$B = -40$$

Elliot is thinking of a 6-digit number. It has a 4 in the thousands place. The hundreds digit is half of the hundred thousands digit. The ones digit is double the thousands digit. Its digit total is 24. What could Elliot's number be?

*Various answers possible, including 624318.*

If you put these numbers in order from lowest to highest, which number will be the third one? Round this number to the nearest 1000.

**32 874   30 292   32 845   32 901   34 493**

**32 874**

*Rounds to 33 000.*

Starting at 45 872, count backwards in 10 000s. How many steps will it take to get as close to zero as possible without going into negative numbers?

**4 steps**

What number will you reach?

**5 872**

Round this number to the nearest 100.

**5 900**