Your notes

KS3 Maths: revision notes

Place value and rounding

Contents

1. Place value
2. Ordering numbers
3. Rounding
4. Estimating
5. Key terms
6. Quick questions
7. What to do next

Place value

- The value of a **digit** depends on its position: thousands, hundreds, tens, ones, then **tenths**, **hundredths** and thousandths after the decimal point.
- In 4 572.36, the 5 is worth 500 and the 3 is worth 3 **tenths** (0.3).
- Multiplying by 10, 100 or 1000 moves the **digits** 1, 2 or 3 places to the left: 3.4 × 100 = 340. Dividing moves them to the right: 56 ÷ 1000 = 0.056.

Ordering numbers

- To order decimals, compare the **digits** from the left: 0.45 is bigger than 0.405, because 5 **hundredths** is more than 0 **hundredths**.
- It can help to give every number the same number of **decimal places**: 0.450, 0.405, 0.500.

Rounding

- To round, look at the next **digit**: 5 or more rounds up; 4 or less rounds down.
- 3 847 to the nearest 100 is 3 800. 2.764 to 1 **decimal place** is 2.8.
- **Significant figures** start at the first non-zero **digit**: 48 372 to 1 **significant figure** is 50 000, and 0.004 57 to 2 significant figures is 0.0046.

Estimating

- **Estimate** by **rounding** each number to 1 **significant figure**: 49 × 21 ≈ 50 × 20 = 1000.
- **Estimates** help you check whether a calculator answer is sensible.

Key terms

Place value	The value of a digit because of its position in a number.

Digit	One of the symbols 0 to 9 used to write numbers.
Decimal place	A position after the decimal point.
Tenth	One part in ten: 0.1.
Hundredth	One part in a hundred: 0.01.
Rounding	Making a number simpler while keeping it close to its value.
Significant figure	A digit that counts, starting from the first non-zero digit.
Estimate	A rough answer found by rounding the numbers first.

Your notes

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. What is the value of the 7 in 3 724?
2. What is the value of the 6 in 2.365?
3. What is 3.4 × 100?
4. What is 56 ÷ 1000?
5. What is 3 847 rounded to the nearest hundred?
6. What is 2.764 rounded to 1 decimal place?
7. What is 0.004 57 rounded to 2 significant figures?
8. What is 48 372 rounded to 1 significant figure?

Answers

1. 700
2. 0.06
3. 340
4. 0.056
5. 3800
6. 2.8
7. 0.0046
8. 50 000

What to do next

Practise 13 questions on this topic

Try 4 exam questions, with mark schemes

Read the lesson, one step at a time

Free revision for GCSE and KS3 at lycolearn.co.uk. Some notes are for one exam board only, and say so in brackets.