Year 10 Mathematics Learning Journey: Unit 14 - Non-Calculator Methods

Step 14: Multi-step problems

Cat food comes in 825g packets that cost £2.15. Huan has two cats. Each cat eats 55g of cat food a day. Huan wants to buy enough cat food for six weeks. How much will it cost?

Step 13: Financial maths

Alex buys a house for £140000. She spends £40 000 renovating and then sells the house for £235000. Work out the percentage profit made.

Step 12: Use number sense

How can we adjust 9.9 x 87 to make it into easier calculations?

Step 11 (H): Upper and Lower Bounds

Aisha runs 100m in 15 seconds, both round to the nearest integer. Find the upper and lower bounds of her speed.

Step 10: Limits of accuracy

Find the upper and lower bounds of 70 rounded to the nearest integer.

Step 5 (H): Rational / **Irrational Numbers**

What is the difference between a terminating decimal and a recurring decimal?

Step 6 (H): **Understand** surds

Write $\sqrt{27}$ in the form $a\sqrt{b}$.

Step 7 (H): Calculate with surds

Rationalise $\frac{5}{2\sqrt{3}}$

Step 8 (R): Rounding

What is the difference between decimal places and significant figures?

Step 9 (R): Estimating

Between which two integers does the square root of 57 lie? How do you know?

Step 4: Exact Answers

Is it ok to give the solution to an equation as a fraction rather than a decimal?

Step 3 (R): Fraction arithmetic

Find the perimeter and area of a rectangle with length $\frac{5}{a}$ inches and width $3\frac{1}{3}$ inches.

Step 2 (R): Multiplication and Division

A two-week holiday costs £1659. How much does the holiday cost per day?

Step 1 (R): Addition and Subtraction

Why is it easy to add 9.9 without a written method?







