

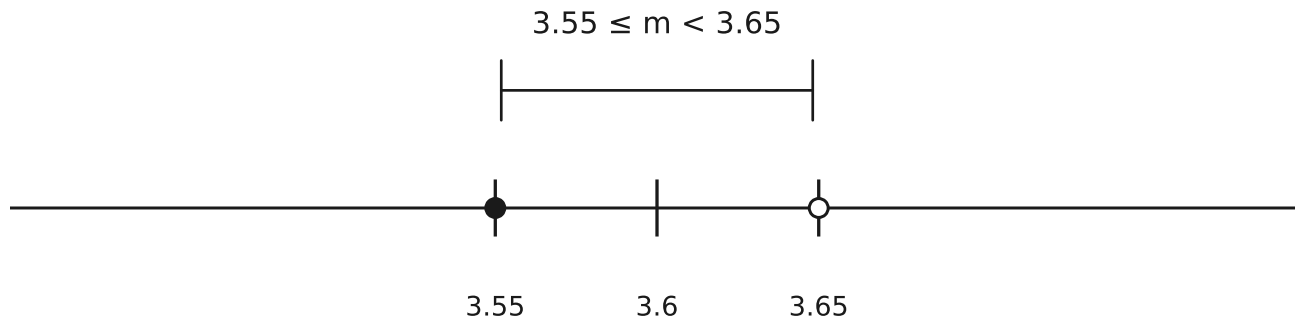
Exercise walk-through

1.2.2

Decimals

AQA · GCSE · Mathematics

Figure 12: Indices, surds, standard form

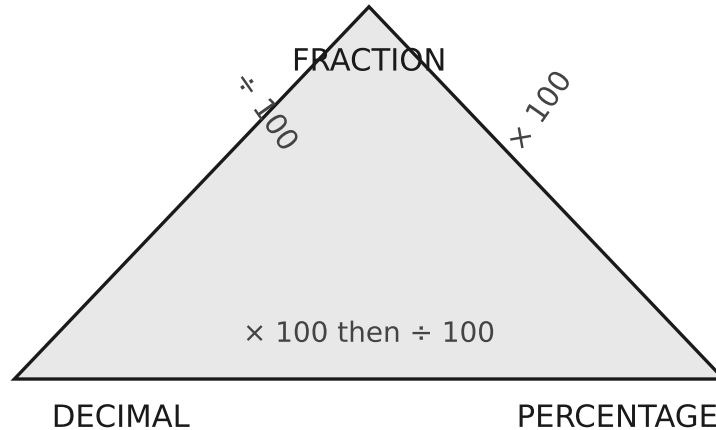


$m = 3.6$ to 1 decimal place: closed at the lower bound, open at the upper

Check the labelled values and conditions.

Figure 15: Fractions, decimals

$\frac{1}{2} = 0.5 = 50\%$ — every vertex names the same number



Check the labelled values and conditions.

19. Checklist before you call this topic done

Checklist before you call this topic done

Four operations on fractions/mixed numbers and negatives without a calculator; BIDMAS traps. Prime decomposition $\rightarrow$ HCF/LCM; product rule for counting (H). Index laws including negative and fractional; simplify and rationalise surds (H). Standard form arithmetic; rounding and error intervals; upper/lower bounds through a formula (H). FDP conversions including recurring decimals (H); percentage multipliers and reverse percentages.

Exercises 2.1·2.3

2.1 (Foundation) Find the numerator when 0.375 is expressed over 8.

2.2 (Foundation) Find the denominator of 3.5 in lowest terms.

2.3 (Foundation) Find the denominator of 0.06 in lowest terms.

Exercises 2.1·2.3

2.1 (Foundation) Find the numerator when 0.375 is expressed over 8.

2.1 $375/1000$ reduces to $3/8$.

2.2 (Foundation) Find the denominator of 3.5 in lowest terms.

2.2 $35/10$ reduces to $7/2$, so the denominator is 2.

2.3 (Foundation) Find the denominator of 0.06 in lowest terms.

2.3 $6/100$ reduces to $3/50$, so the denominator is 50.

Exercises 2.4·3.1

2.4 (Higher) Find the denominator of $0.272727\dots$ in lowest terms.

2.5 (Higher) Find the denominator of $0.16666\dots$ in lowest terms.

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: The finite decimal 0.375 equals $375/100$.

Exercises 2.4·3.1

2.4 (Higher) Find the denominator of $0.272727\dots$ in lowest terms.

2.4 $100x - x = 27$ gives $27/99 = 3/11$.

2.5 (Higher) Find the denominator of $0.16666\dots$ in lowest terms.

2.5 $100y - 10y = 15$ gives $15/90 = 1/6$.

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: The finite decimal 0.375 equals $375/100$.

3.1 False. Three decimal places give $375/1000 = 3/8$. The proposed fraction $375/100$ is 3.75 , ten times too large.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.