

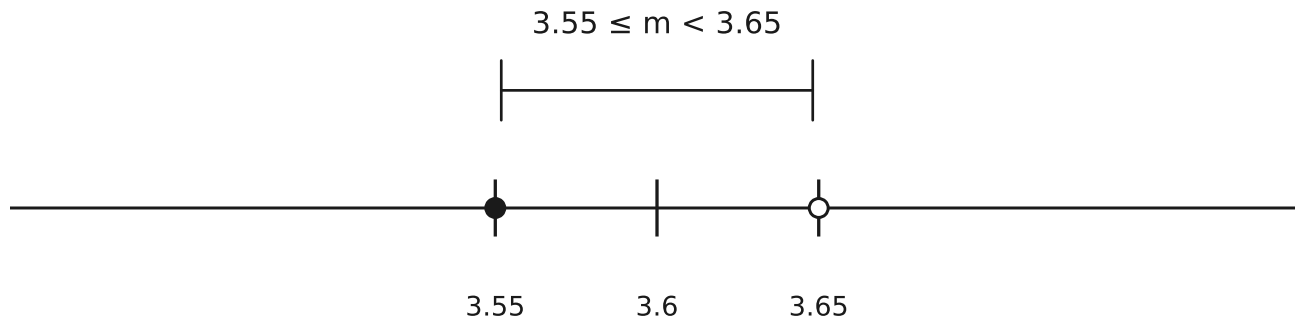
Exercise walk-through

1.1.3

Counting

AQA · GCSE · Mathematics

Figure 12: Indices, surds, standard form

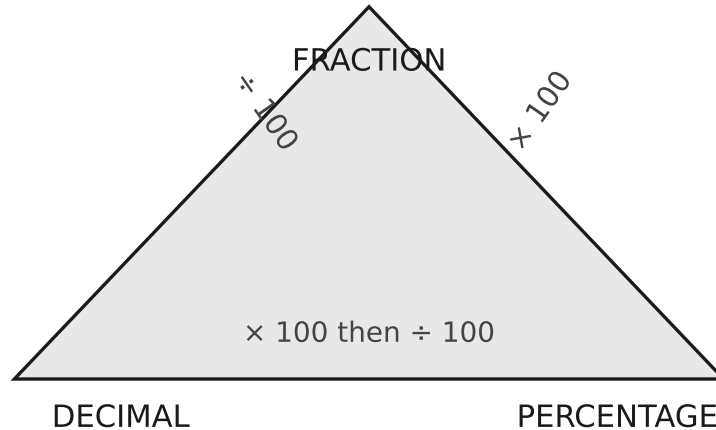


$m = 3.6$ to 1 decimal place: closed at the lower bound, open at the upper

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) How many cafe choices are in the complete list?

2.2 (Foundation) How many remain when tea-melon is removed?

2.3 (Foundation) How many three-digit codes use 1,2,3 once each?

Exercises 2.1·2.3

2.1 (Foundation) How many cafe choices are in the complete list?

2.1 There are three listed foods under each of two drinks: six listed outcomes.

2.2 (Foundation) How many remain when tea-melon is removed?

2.2 Remove one of the six outcomes: five remain.

2.3 (Foundation) How many three-digit codes use 1,2,3 once each?

2.3 List 123,132,213,231,312,321: six codes.

Exercise 3.1

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: Three available first choices and four second choices always give twelve outcomes even if some combinations are forbidden.

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3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: Three available first choices and four second choices always give twelve outcomes even if some combinations are forbidden.

3.1 False. If one of the 3×4 pairs is forbidden, only 11 outcomes remain. The product rule needs all combinations to be allowed, or an adjusted count by cases.

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