ELITE IGCSE MATHEMATICS
EXPERIENCE NOTES

Fractions, Decimals & Percentages

Learn the trigger, write the first line, then solve one similar problem while the method is still fresh.

FRACTIONS, DECIMALS & PERCENTAGES · CH1 · L8

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The Map

This lesson collapses Fractions, Decimals & Percentages into the few exam moves that keep repeating. Read the trigger, copy the first line, then practise the same idea on the next page.

01 Convert fraction to decimal

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

02 Convert decimal to percentage

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

03 Use percentage multiplier

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

04 Compare all values in one form

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

05 Simplify fraction

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

06 Subtract

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

BANK EVIDENCE 1 website questions, 1 checked solutions, 3 local PDFs read.

01 Convert fraction to decimal

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

BECOMES A Fractions, Decimals & Percentages question where the mark is won by naming the move first, then substituting cleanly.

FIRST LINE TO WRITE

$$y = 0.4\dot{x}$$

SIMPLEST STRATEGY

1. Underline the target: what is the question asking you to find?
2. Write the rule, theorem, or equation before any calculator work.
3. Substitute one value at a time and keep units/unknowns visible.
4. Answer in the exact form requested: units, degree, money, ratio, or proof reason.

WORKED MODEL

Source pattern: Nov 2021 P1H Q18

Let

$$y = 0.4\dot{x}$$

Simplify fraction

$$y = 0.4xxx\ldots$$

Finish: $\frac{x+36}{90}$

FORMULA BANK

Write the rule or equation first, then substitute. Do not start with loose calculator work.

BOTTOM LINE

The examiner is not looking for magic; they are looking for the correct first line, clean substitution, and the requested final form.

Practice 01

SAME IDEA Use the same first line from Strategy 01.

QUESTION

> 18 0.4x is a recurring decimal. x is a whole number such that 1 < x < 9 Find, in terms of x, the recurring decimal 0.4x as a fraction. Give your fraction in its simplest form. Show clear algebraic working.

YOUR SOLUTION

02 Convert decimal to percentage

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

BECOMES A Fractions, Decimals & Percentages question where the mark is won by naming the move first, then substituting cleanly.

FIRST LINE TO WRITE

$$y = 0.4\dot{x}$$

SIMPLEST STRATEGY

1. Underline the target: what is the question asking you to find?
2. Write the rule, theorem, or equation before any calculator work.
3. Substitute one value at a time and keep units/unknowns visible.
4. Answer in the exact form requested: units, degree, money, ratio, or proof reason.

WORKED MODEL

Source pattern: Nov 2021 P1H Q18

Let

$$y = 0.4\dot{x}$$

Simplify fraction

$$y = 0.4xxx\ldots$$

Finish: $\frac{x+36}{90}$

FORMULA BANK

Write the rule or equation first, then substitute. Do not start with loose calculator work.

BOTTOM LINE

The examiner is not looking for magic; they are looking for the correct first line, clean substitution, and the requested final form.

Practice 02

SAME IDEA Use the same first line from Strategy 02.

QUESTION

> 18 0.4x is a recurring decimal. x is a whole number such that 1 < x < 9 Find, in terms of x, the recurring decimal 0.4x as a fraction. Give your fraction in its simplest form. Show clear algebraic working.

YOUR SOLUTION

03 Use percentage multiplier

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

BECOMES A Fractions, Decimals & Percentages question where the mark is won by naming the move first, then substituting cleanly.

FIRST LINE TO WRITE

$$y = 0.4\dot{x}$$

SIMPLEST STRATEGY

1. Underline the target: what is the question asking you to find?
2. Write the rule, theorem, or equation before any calculator work.
3. Substitute one value at a time and keep units/unknowns visible.
4. Answer in the exact form requested: units, degree, money, ratio, or proof reason.

WORKED MODEL

Source pattern: Nov 2021 P1H Q18

Let

$$y = 0.4\dot{x}$$

Simplify fraction

$$y = 0.4xxx\ldots$$

Finish: $\frac{x+36}{90}$

FORMULA BANK

Write the rule or equation first, then substitute. Do not start with loose calculator work.

BOTTOM LINE

The examiner is not looking for magic; they are looking for the correct first line, clean substitution, and the requested final form.

Practice 03

SAME IDEA Use the same first line from Strategy 03.

QUESTION

> 18 0.4x is a recurring decimal. x is a whole number such that 1 < x < 9 Find, in terms of x, the recurring decimal 0.4x as a fraction. Give your fraction in its simplest form. Show clear algebraic working.

YOUR SOLUTION

04 Compare all values in one form

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

BECOMES A Fractions, Decimals & Percentages question where the mark is won by naming the move first, then substituting cleanly.

FIRST LINE TO WRITE

$$y = 0.4\dot{x}$$

SIMPLEST STRATEGY

1. Underline the target: what is the question asking you to find?
2. Write the rule, theorem, or equation before any calculator work.
3. Substitute one value at a time and keep units/unknowns visible.
4. Answer in the exact form requested: units, degree, money, ratio, or proof reason.

WORKED MODEL

Source pattern: Nov 2021 P1H Q18

Let

$$y = 0.4\dot{x}$$

Simplify fraction

$$y = 0.4xxx\ldots$$

Finish: $\frac{x+36}{90}$

FORMULA BANK

Write the rule or equation first, then substitute. Do not start with loose calculator work.

BOTTOM LINE

The examiner is not looking for magic; they are looking for the correct first line, clean substitution, and the requested final form.

Practice 04

SAME IDEA Use the same first line from Strategy 04.

QUESTION

> 18 0.4x is a recurring decimal. x is a whole number such that 1 < x < 9 Find, in terms of x, the recurring decimal 0.4x as a fraction. Give your fraction in its simplest form. Show clear algebraic working.

YOUR SOLUTION

05 Simplify fraction

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

BECOMES A Fractions, Decimals & Percentages question where the mark is won by naming the move first, then substituting cleanly.

FIRST LINE TO WRITE

$$y = 0.4\dot{x}$$

SIMPLEST STRATEGY

1. Underline the target: what is the question asking you to find?
2. Write the rule, theorem, or equation before any calculator work.
3. Substitute one value at a time and keep units/unknowns visible.
4. Answer in the exact form requested: units, degree, money, ratio, or proof reason.

WORKED MODEL

Source pattern: Nov 2021 P1H Q18

Let

$$y = 0.4\dot{x}$$

Simplify fraction

$$y = 0.4xxx\ldots$$

Finish: $\frac{x+36}{90}$

FORMULA BANK

Write the rule or equation first, then substitute. Do not start with loose calculator work.

BOTTOM LINE

The examiner is not looking for magic; they are looking for the correct first line, clean substitution, and the requested final form.

Practice 05

SAME IDEA Use the same first line from Strategy 05.

QUESTION

> 18 0.4x is a recurring decimal. x is a whole number such that 1 < x < 9 Find, in terms of x, the recurring decimal 0.4x as a fraction. Give your fraction in its simplest form. Show clear algebraic working.

YOUR SOLUTION

06 Subtract

TRIGGER *"work out", "show", "hence", a familiar exam phrase*

BECOMES A Fractions, Decimals & Percentages question where the mark is won by naming the move first, then substituting cleanly.

FIRST LINE TO WRITE

$$y = 0.4\dot{x}$$

SIMPLEST STRATEGY

1. Underline the target: what is the question asking you to find?
2. Write the rule, theorem, or equation before any calculator work.
3. Substitute one value at a time and keep units/unknowns visible.
4. Answer in the exact form requested: units, degree, money, ratio, or proof reason.

WORKED MODEL

Source pattern: Nov 2021 P1H Q18

Let

$$y = 0.4\dot{x}$$

Simplify fraction

$$y = 0.4xxx\ldots$$

Finish: $\frac{x+36}{90}$

FORMULA BANK

Write the rule or equation first, then substitute. Do not start with loose calculator work.

BOTTOM LINE

The examiner is not looking for magic; they are looking for the correct first line, clean substitution, and the requested final form.

Practice 06

SAME IDEA Use the same first line from Strategy 06.

QUESTION

> 18 0.4x is a recurring decimal. x is a whole number such that 1 < x < 9 Find, in terms of x, the recurring decimal 0.4x as a fraction. Give your fraction in its simplest form. Show clear algebraic working.

YOUR SOLUTION

Quick Reference

TRIGGER → FIRST MOVE

WHEN YOU SEE	WRITE THIS FIRST
"work out", "show", "hence", a familiar exam phrase	Convert fraction to decimal
"work out", "show", "hence", a familiar exam phrase	Convert decimal to percentage
"work out", "show", "hence", a familiar exam phrase	Use percentage multiplier
"work out", "show", "hence", a familiar exam phrase	Compare all values in one form
"work out", "show", "hence", a familiar exam phrase	Simplify fraction
"work out", "show", "hence", a familiar exam phrase	Subtract

FINAL BOTTOM LINE Do not try to remember every past-paper wording. Remember the trigger, write the first line, and let the working follow.