

O Level Maths

Topic: Recurring Decimals and Surds

Instructions

Answer all questions. Show working where necessary. Use your knowledge of recurring decimals and surds to simplify and solve the given problems.

Practice Problems

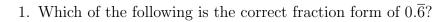
- 1. Convert the recurring decimal $0.\overline{3}$ into a fraction.
- 2. Simplify the following surd: $\sqrt{50}$
- 3. Convert $0.\overline{72}$ into a fraction.
- 4. Simplify the following expression involving surds: $\sqrt{12} + 2\sqrt{3}$
- 5. Find the value of $\sqrt{32}$ in its simplest form.
- 6. Convert the recurring decimal $0.\overline{142857}$ into a fraction.
- 7. Simplify: $\sqrt{98} \sqrt{24}$
- 8. Express $0.\overline{54}$ as a fraction.

Word Problems

- 1. A number is written as $0.\overline{72}$. Convert this number into a fraction and calculate the exact value up to two decimal places.
- 2. The radius of a circle is $\sqrt{18}$ cm. Calculate the area of the circle in its simplest form.

3. A student wrote $0.\overline{123}$ as a fraction. Find this fraction and explain the process of conversion.

Multiple-Choice Questions



- A. $\frac{2}{3}$
- B. $\frac{1}{3}$
- C. $\frac{1}{6}$
- D. $\frac{2}{5}$
- 2. What is the simplest form of $\sqrt{72}$?
 - A. $6\sqrt{2}$
 - B. $12\sqrt{2}$
 - C. $2\sqrt{18}$
 - D. $3\sqrt{8}$
- 3. Which of the following is a recurring decimal?
 - A. 0.75
 - B. $0.\overline{3}$
 - $C. \ 0.5$
 - D. 0.6
- 4. Simplify the expression $\sqrt{24}$ to its simplest form.
 - A. $4\sqrt{6}$
 - B. $2\sqrt{6}$
 - C. $6\sqrt{2}$
 - D. $2\sqrt{3}$

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