Year 9 Indices and Surds – Challenge

HappyKids.fit

Year 9 · Maths · Irrational Numbers, Indices and Surds · Level 3 Challenge · 8 questions

Name _____ **Date** _____

A. Think like a mathematician

1. Eli says the product of two irrational numbers is always irrational. Is Eli right? Explain.

Answer _____

2. Farah says the square root of every whole number is irrational. Is Farah right? Explain.

Answer _____

3. Kofi says adding a rational number to $\sqrt{3}$ always gives an irrational number. Is Kofi right? Explain.

Answer _____

4. Eli says $10^3 \div 10^{-1} = 10^2$. Spot the mistake and give the correct answer.

Answer _____

5. Jade says $(3/4)^{-1} = -3/4$. Spot the mistake and give the correct answer.

Answer _____

6. Work out 2^3, 2^2, 2^1 and 2^0. Continue the pattern to find 2^{-1} and 2^{-2}. Explain the rule.

Answer _____

7. A square floor tile has an area of 115 cm². Between which two whole numbers of centimetres does its side length lie? Is the side length rational or irrational?

Answer _____

8. Find √111 correct to 1 decimal place, without a calculator. Use squares of decimals to check.

Answer _____