Year 9 Indices and Surds – Developing

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Year 9 · Maths · Irrational Numbers, Indices and Surds · Level 2 Developing · 10 questions

Name _____ **Date** _____

A. Use indices and surds

1. Find $\sqrt{31}$ correct to 1 decimal place, without a calculator. Use squares of decimals to check.

Answer _____

2. Find $\sqrt{28}$ correct to 1 decimal place, without a calculator. Use squares of decimals to check.

Answer _____

3. Find n: $10^3 \times 10^n = 10^{-5}$

Answer _____

4. Find n: $10^n = 1/100$

Answer _____

5. Write these numbers in order of size, smallest first: $\sqrt{19}$, 4.6, $\sqrt[3]{70}$, 14/3

Answer _____

6. A cube-shaped water tank holds 370 m³. Between which two whole numbers of metres is the length of each edge?

Answer _____

7. A square field has an area of 353 m². Find the length of one side, correct to 1 decimal place, by trying squares of decimals.

Answer _____

8. Write 3^{-1} as a fraction.

Answer _____

9. Which of these numbers are irrational? 9/13, 0.22, $3 + \sqrt{5}$, $\sqrt[3]{64}$, $\sqrt{11}$

Answer _____

10. Jade says $3^4 \times 3^{-3} = 3^{-12}$. Spot the mistake and give the correct answer.

Answer _____