

Powers, Roots, Indices, Prime Factorisation, HCF and LCM

Year 9 · Number · y9-fraction-simplify

Name: _____

Date: _____

Class: _____

Score: ____ / ____

Instructions

Answer every question in Practice. Try the Challenge section once Practice is complete. 10 questions in total.

Practice

1. Reduce to its simplest form: $3^4 \times 3^2$. Write as a single power.

2. Write 60 as a product of prime factors.

3. Write in its simplest form: $5^7 \div 5^3$. Write as a single power.

4. Find the HCF of 24 and 36.

5. Find the LCM of 6 and 8.

6. When multiplying powers of the same base, add the exponents — don't multiply the bases. Simplify: $2^3 \times 2^5$.

7. When dividing powers of the same base, subtract the exponents. Simplify: $7^6 \div 7^2$.

8. A negative index means a reciprocal, not a negative number: $a^{-n} = 1/a^n$. Write 2^{-3} as a fraction.

Challenge

1. Simplify: $(2^3)^2$. Write as a single power.

2. Find the LCM of 15 and 20, and the HCF of 15 and 20. Give as: LCM, HCF.
