

Number Sheet 1

Non-Calculator

Questions

1. Work out $\frac{3}{2} - \frac{1}{6}$ as both a mixed number and a improper fraction.
2. Work out $64^{\frac{1}{2}} \times 8^{\frac{1}{3}}$
3. Simplify, $\frac{1+\sqrt{3}}{3+2\sqrt{3}}$
4. Work out $(\frac{8}{27})^{-\frac{2}{3}}$

Part 1 and 2 of the following question are essential to understand but the third part requires more thought.

Challenge

1. Calculate the prime factorisation of 24 and of 16
2. Calculate $lcm(24, 36)$ and $hcf(24, 36)$
3. Verify that $lcm(24, 36) \times hcf(24, 36) = 24 \times 36$
4. Think about why $lcm(x, y) \times hcf(x, y) = x \times y$