

Problem of the Week: Week 6 (Sum2): Year 10: Number: Integers, powers and roots

- {estimate powers and roots of any given positive number}
- calculate with roots, and with integer {and fractional} indices
- calculate exactly with fractions, {surds} and multiples of π ; {simplify surd expressions involving squares [for example $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$] and rationalise denominators}

Estimating roots and powers

 $\sqrt{225} = 15$ {since $15^2 = 15 \times 15 = 225$ }. We can also write this as $225^{1/2} = 15$

 $\sqrt[3]{27} = 3$ {since $3^3 = 3 \times 3 \times 3 = 27$ }. We can also write this as $27^{1/3} = 3$

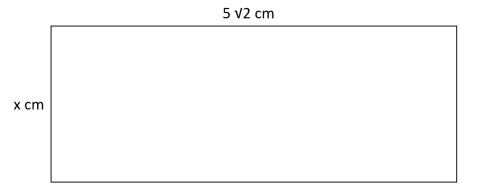
- a) Estimate the value of V82 using a known square number.
- b) Estimate the value of 8.2⁴
- c) Estimate the cube root of 3250
- d) Estimate the value of v820,000

Surd Area

The area of this rectangle is 60 cm²

Find the value of x

Give your answer in the form avb where a and b are integers



HIAS HOME LEARNING

