Year 8 Integers, Powers and Roots – Foundation

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Answers and worked solutions · 10 questions

A. Powers and roots

1. 2^7

Same base, so subtract the indices: 12 − 5 = 7

$= 2^7$

2. 6^0

Same base, so subtract the indices: 11 − 11 = 0

Any number (except 0) to the power 0 is 1

$= 6^0$

3. −95

$2^2 = 4$, $11^0 = 1$, $10^2 = 100$

= −95

4. 11 and −11

11 × 11 = 121

(−11) × (−11) = 121 too

5. 196

(−14) × (−14)

Negative × negative is positive: 196

6. −512

(−8) × (−8) × (−8)

Three negatives multiply to a negative: −512

7. −12

Brackets first (including the part under a root sign), then indices and roots

Then × and ÷, then + and −

= −12

8. −2

Brackets first (including the part under a root sign), then indices and roots

Then × and ÷, then + and −

= −2

9. −6

Ignore the signs: 96 ÷ 16 = 6

Different signs give a negative: −6

10. −4, 7, 0

Natural numbers: 1, 2, 3, … (positive whole numbers). Integers: whole numbers, including 0 and negatives

Rational numbers: any number that can be written as a fraction, so every integer is rational