

Revision: Exponents and surds, square roots and cube roots

Simplify. Write the answers only.

1. 1.1 8^2
 1.3 2^3
 1.5 12^2
 1.7 $6^2 - 3^2$
 1.9 $10^3 - 10^2$

2. 2.1 a) $\sqrt{16}$
 2.2 a) $\sqrt[3]{27}$
 2.3 a) $\sqrt{100}$
 2.4 a) $\sqrt[3]{8}$
 2.5 a) $\sqrt[3]{-1\,000}$
 2.6 a) $\sqrt{121}$
 2.7 a) $\sqrt{169}$
 2.8 a) $\sqrt[3]{8\,000}$
 2.9 a) $\sqrt{25}$
 2.10 a) $\sqrt[3]{125}$

3. 3.1 $\sqrt{\frac{16}{25}}$
 3.3 $\sqrt{2\frac{1}{4}}$
 3.5 $\sqrt{9 \times 16}$
 3.7 $\sqrt{81} - \sqrt{25}$
 3.9 $\sqrt[3]{64} + \sqrt{64}$

- 1.2 4^3
 1.4 1^3
 1.6 $2^3 + 2^2$
 1.8 $3^2 \times 2^3$
 1.10 $5^2 + 3^3$
 b) $\sqrt{16x^8}$
 b) $\sqrt[3]{27x^9}$
 b) $\sqrt{100x^2y^4}$
 b) $\sqrt[3]{8x^6y^{12}}$
 b) $\sqrt[3]{-1\,000x^{15}}$
 b) $\sqrt{\frac{121}{144}}$
 b) $\sqrt{169}\sqrt{x^8}$
 b) $\sqrt[3]{\frac{x^6}{8\,000}}$
 b) $\sqrt{25 \times 36}$
 b) $\sqrt[3]{125a^3b^6c^{15}}$

- 3.2 $\sqrt[3]{\frac{1}{8}}$
 3.4 $\sqrt{1,69}$
 3.6 $\sqrt{9} + \sqrt{16}$
 3.8 $-\sqrt{25}$
 3.10 $\sqrt[3]{1} + \sqrt{\frac{1}{100}}$

Revision: Exponential laws

Write each answer using positive exponents.

1. 1.1 $x^4 \times x^3$
 1.3 $3^4 \times 3^3$
 1.5 $5x^5 \times 2x^2$
 1.7 $x^9 \div x^3$
 1.9 $2^8 \div 2^2$
 1.11 $10^5 \times 10^4 \times 10^3$

- 1.2 $2^4 \times 2^3$
 1.4 $2x^4 \times 5x^3$
 1.6 $2^4 \times 2^3 \times 2^5$
 1.8 $5^{10} \div 5^3$
 1.10 $10^{10} \div 10^3$
 1.12 $1^6 \times 1^3$