

Using Index Notation

1. Write the following using index notation:

a. $3 \times 3 \times 3 \times 3$

b. $7 \times 7 \times 7 \times 7 \times 7 \times 7$

c. $4 \times 4 \times 4$

d. $10 \times 10 \times 10 \times 10 \times 10$

e. $6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6$

f. 34×34

2. Write the following using index notation:

a. $y \times y \times y$

b. $p \times p \times p \times p \times p$

c. $s \times s \times s \times s$

d. $m \times m \times m \times n \times n$

e. $s \times t \times t \times t \times t$

f. $a \times a \times b \times b \times a \times b$

3. Use your calculator to work out these values:

a. 4^5

b. 10^3

c. 3^8

d. 1^{20}

e. 12^3

f. 7^6

g. $(-2)^6$

h. 20^2

4. Use your calculator to work out these values:

a. $4^5 \times 3^2$

b. $7^3 \times 2^4$

c. $10^3 - 10^2$

d. $7^3 \div 2^6$

e. $5^8 + 4^2$

f. $1^3 \times 8^4$

g. $17^3 - 18^2$

h. $9^4 \div 3^8$

5. Without using a calculator, evaluate the following:

a. 8^2

b. 10^4

c. 1^6

d. 12^1

e. 2^5

f. $(\frac{1}{2})^2$

g. $10^5 - 10^3$

h. $3^3 + 5^3$

6. Put the correct index (power) on the left hand side to make these equations equal:

a. $2 = 8$

b. $10 = 1\,000\,000$

c. $9 = 729$

d. $7 = 49$

e. $100 = 1\,000\,000$

f. $9 = 1$