



## Algebra in Action

### EXAMPLE 2

- a Write  $p \times p \times p \times p$  in index form.  
 b Write the answer for part a in words.  
 c State which part is the base and which is the index.

- a  $p$  is repeated 4 times.  $\therefore p \times p \times p \times p = p^4$   
 b  $p^4$  means  $p$  to the power of 4.  
 c The base is  $p$  and the index is 4.

6 Complete the following.

- a Write  $k \times k \times k \times k \times k$  in index form.  $k \times k \times k \times k \times k = k^5$   
 b Write the answer from part a in words. \_\_\_\_\_ means '\_\_\_\_\_ to the power of \_\_\_\_\_'.  
 c State which number is the base and which is the index. The base is \_\_\_\_\_ and the index is \_\_\_\_\_.


7 a Write the following in index form.

- i  $w \times w \times w \times w$  ii  $a \times a \times a \times a \times a \times a \times a \times a \times a \times a$   
 b Write the answer for part a in words.  
 c State which part is the base and which is the index.

### EXAMPLE 3

Write the following in expanded form.

- a  $4^3$  b  $h^5$

Expanded form means as a repeated product. 

- a Base is 4 and index is 3.  $\therefore 4$  is written out 3 times.  
 $4^3$  in expanded form is  $4 \times 4 \times 4$ .  
 b Base is  $h$  and index is 5.  $\therefore h$  is written out 5 times.  
 $h^5$  in expanded form is  $h \times h \times h \times h \times h$ .

8 Complete to write the following in expanded form.

- a  $5^6 = \_ \times \_ \times \_ \times \_ \times \_ \times \_$   
 b  $12^3 = \_ \times \_ \times \_$   
 c  $j^5 = \_ \times \_ \times \_ \times \_ \times \_$   
 d  $v^7 = \_ \times \_ \times \_ \times \_ \times \_ \times \_ \times \_$

9 Write the following in expanded form.

- |          |         |         |         |
|----------|---------|---------|---------|
| a $1^6$  | b $7^8$ | c $6^3$ | d $2^4$ |
| e $10^2$ | f $3^2$ | g $8^5$ | h $4^5$ |
| i $l^7$  | j $t^2$ | k $f^4$ | l $a^9$ |
| m $y^5$  | n $d^5$ | o $k^3$ | p $m^8$ |



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