25/11/24 - describing indices

instead of x5 we say 'x to the power of 5'

instead of x3 we should either say 'x to power of the 3' OR we say 'x cubed'

instead of x2 we say 'x to the power of two' OR 'x squared'
instead of x1, we say only 'x' OR 'x to the power to 1'

proving that any number to the power of 0 is 1:

$1000 = 1000^1$

$1000^0 = 1$

$$\frac{1000 \times 1000 \times 1000}{1000 \times 1000 \times 1000} = \frac{1000^3}{1000^3} = 1000^{3-3} = 1000^0$$

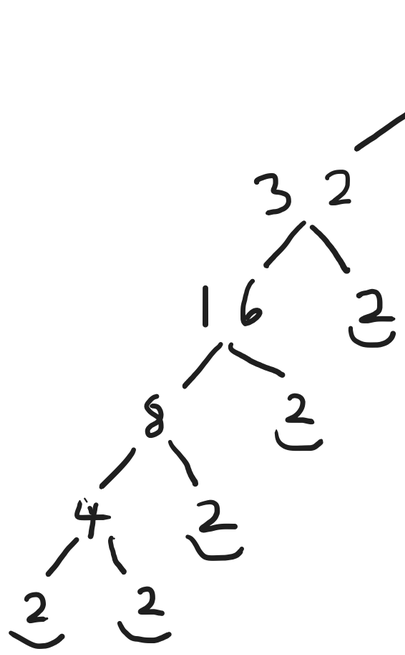
$$\frac{1 \times 1 \times 1}{1 \times 1 \times 1} = \frac{1}{1} = 1$$

6b) 7 x 7 x 7 x 7 x 3 x 3 x 3 x 3
seven to the power of four times three to the power of four

8. Write each of the following numbers as a product of its prime factors, using indices.

a. 64 **b.** 40 **c.** 36
d. 400 **e.** 225 **f.** 2000

a) $8 \times 8 = 4 \times 2 \times 4 \times 2$
$= 2^6$



HOMEWORK

Write each of the following in in index form
a) 7 x a x a x a x 3 x b x b x a x 5 x c x c x a

b) 3^2 x a x b x c x 2 x a x b x c
(note: 3^2 means three squared)

TASK #2 OF HOMEWORK:
Complete questions 8 b to f (following the same process done above for part a).