Unit : - Indices
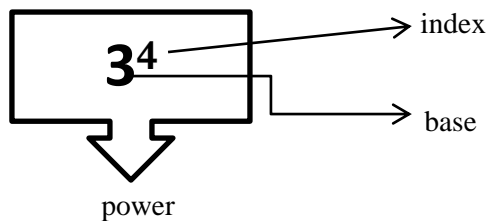
No. of Periods : 04

When a number is multiplied repeatedly by the same number when written in a concise way is called index form.

Example **: – 5 x 5 x 5 = 5³**

Show in index form.

Product	Index Form	How it is read
3 x 3 x 3 x 3	3^4	Three to the power four
2 x 2 x 2 x 2 x 2		
6 x 6		
9 x 9 x 9		
4 x 4 x 4 x 4 x 4 x 4		
7 x 7 x 7 x 7		

Finding the value of a power.

Example : - 1) Find the value of 2^4

$$2^4 = 2 \text{ x } 2 \text{ x } 2 \text{ x } 2$$
$$= 4 \text{ x } 2 \text{ x } 2$$
$$= 8 \text{ x } 2$$
$$= 16$$

Example : - 2) Find the value of $2^3 \times 3^2$

$$2^3 \times 3^2 = \underline{2 \times 2} \times 2 \times 3 \times 3$$
$$= \underline{4 \times 2} \times 3 \times 3$$
$$= \underline{8 \times 3} \times 3$$
$$= 24 \times 3$$
$$= 72$$

❖ Complete the exercise 24.1 in your text book given in the page number 149 and 150.

Represesnding a number as a power of a given number.

Example :- 01

Express the number 16 as a power of 2

```
2 | 16
2 | 8
2 | 4
2 | 2
    1
```
$16 = 2 \times 2 \times 2 \times 2 = 2^4$

Example :- 02

Express the number 125 as a power of 5

```
5 | 125
5 | 25
5 | 5
    1
```
$125 = 5 \times 5 \times 5 = 5^3$

❖ Complete the exercise 24.2 in your text book given in the page number 151.

❖ Fill in the blanks using the experience you got from this lesson.
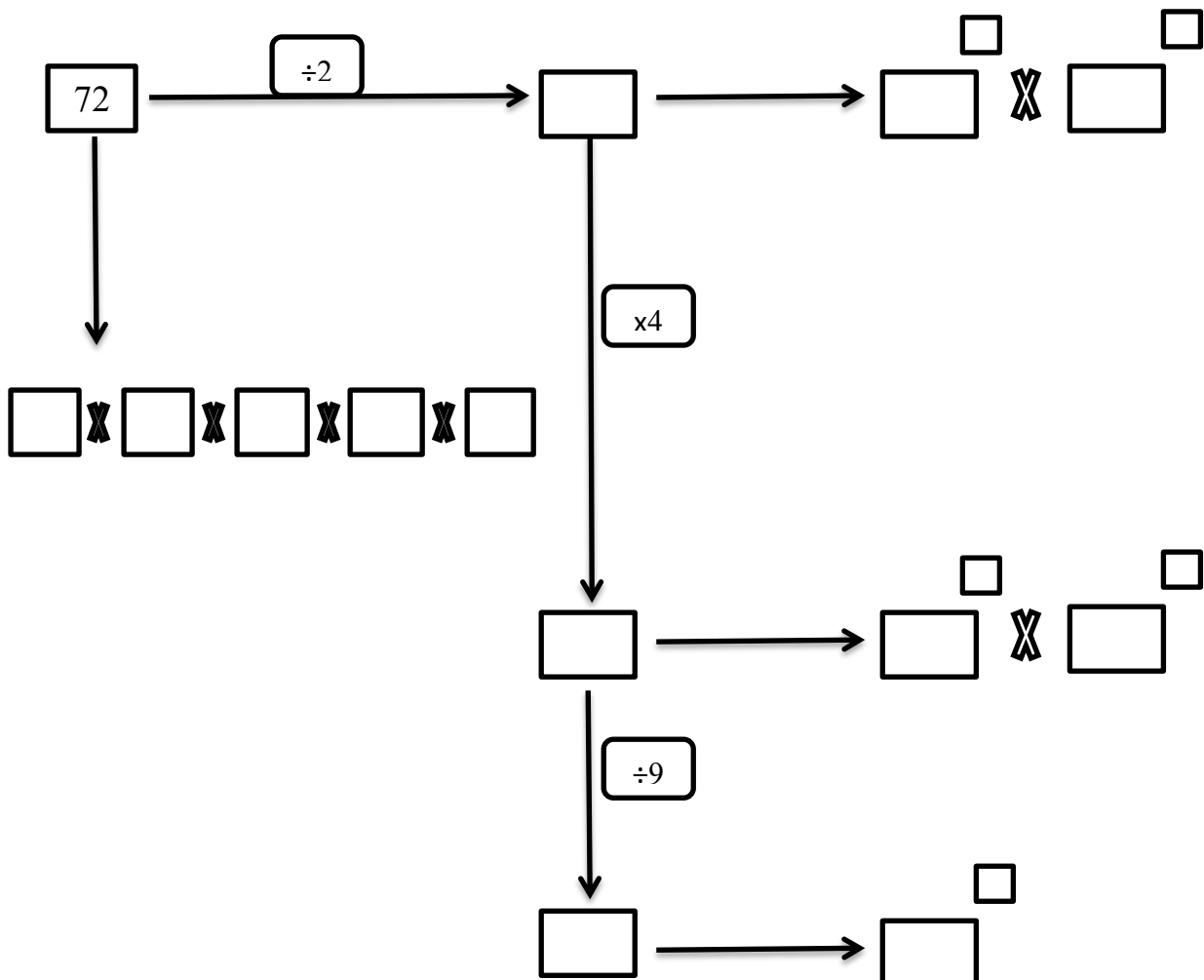
❖ Do the miscellaneous exercises in your text book given in the page number 152.