

$$\frac{(\sqrt{3}-\sqrt{2})^2}{3-2} = \frac{(\sqrt{3}-\sqrt{2})^2}{1}$$

now

$$(\sqrt{3}-\sqrt{2})^2 = (\sqrt{3})^2 - 2\sqrt{3}\sqrt{2} + (\sqrt{2})^2$$

by the formula  $(a-b)^2 = a^2 - 2ab + b^2$

$$3 - 2\sqrt{6} + 2$$

$$= 5 - 2\sqrt{6}$$

$$= 5 - 2 \times 2.449$$

$$= 5 - 4.898$$

$$= 0.102$$

Rules of Surds

Rule I  $a\sqrt{x} + b\sqrt{x} + c\sqrt{x}$

$$= \sqrt{x} (a+b+c)$$

$\sqrt{x}$  is common in this

Rule II  $\sqrt{a} \times \sqrt{b} \times \sqrt{c}$

$$= \sqrt{abc}$$

# Indices and Surds

[class notes]

Indices:- When multiple of any number put upto its number as a power.

Such as  $a^n, a^x$

$a \times a \times a \dots \dots \dots n$  times

then  $a \times a \times a \dots \dots \dots n = a^n$

→  $a$  is base of the indices and

→  $n$  is power

exp.  $6 \times 6 \times 6 = 6^3$

{6 multiply three times,}

Variable indices such as  $a^x, b^y, z^z$

Non-variable  $3^4, 7^8, \sqrt{4}$

Exponential indices =  $e^x$   
(function)

where value of  $e = 2.718$  (approximate)