

Mathematics

數學科

Rational and Irrational Numbers

有理數及無理數



計數要小心，
咪期望快一陣！

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(A) Real Numbers 實數

What is Real Numbers? 什麼是實數?

黎 Sir 提提你  :

e.g. Simplify the following recurring decimals to fraction. 將以下各循環小數化成分數

a. $3.\dot{7}\dot{1}$

b. $0.\dot{6}\dot{7}\dot{4}$

黎 Sir 提提你  :

a.

b.

(B) Nature of Roots 根式的特性

Nature of Roots: For any two positive integer a and b .

	Nature 性質	Examples 例子
1.	$\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$	$\sqrt{8 \cdot 9} = \sqrt{8} \cdot \sqrt{9}$
2.	$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$	$\sqrt{\frac{7}{18}} = \frac{\sqrt{7}}{\sqrt{18}}$

黎 Sir 提提你  :

(C) Simplification of Roots 根式的簡化

How to simplify roots? 怎樣簡化根式?

黎 Sir 提提你  :

e.g. Simplify the following roots. 簡化以下各根式.

a. $\sqrt{8}$

b. $\sqrt{72}$

c. $\sqrt{\frac{32}{27}}$

黎 Sir 提提你  :

a.

b.

c.

(D) Four fundamental operations of arithmetic of roots

根式的四則運算

How to do addition and subtraction of roots? 怎樣做根式加法和減法?

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e.g. Evaluate the following roots. 計算以下各根式.

a. $\sqrt{27} + \sqrt{75}$

b. $\sqrt{147} - \sqrt{27}$

黎 Sir 提提你  :

How to do multiplication of roots? 怎樣做根式乘法?

黎 Sir 提提你  :

e.g. Evaluate the following roots. 計算以下各根式.

a. $\sqrt{27} \times \sqrt{45} \times (-\sqrt{63})$

b. $(2\sqrt{3} - 4\sqrt{5})(3\sqrt{3} - 2\sqrt{5})$

黎 Sir 提提你  :

a.

b.

How to do division of roots? 怎樣做根式除法?

黎 Sir 提提你  :

e.g. Evaluate the following roots. 計算以下各根式.

a. $\frac{\sqrt{27}}{\sqrt{45}}$

b. $\frac{2\sqrt{3}-14\sqrt{3}}{2\sqrt{3}}$

黎 Sir 提提你  :

(E) Rationalization of denominators 有理化份母

How to rationalize the denominators? 怎樣有理化份母?

黎 Sir 提提你  :

e.g. Rationalize the following roots. 有理化以下各根式.

a. $\frac{\sqrt{6}}{\sqrt{45}}$

b. $\frac{2\sqrt{5}}{2\sqrt{3}-3\sqrt{4}}$

黎 Sir 提提你  :

a.

b.

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