

BE-1A MONDAY 11-6-06

- ① NAME THE SET(S) OF NUMBERS
(THERE ARE SIX YOU MUST KNOW)
TO WHICH EACH NUMBER BELONGS.
(NAME ALL THE SETS FOR EACH)

Ⓐ $-\frac{6}{11}$ Ⓑ 4 Ⓒ 1.206

Ⓓ $0.\bar{3}$ Ⓔ π Ⓕ $\sqrt{4}$

Ⓖ $\sqrt{5}$

- ② WHAT ARE THE ODDS AND THE
PROBABILITY OF PULLING A LETTER
FROM A JAR THAT IS THE SAME
AS YOUR FIRST INITIAL? ASSUME
THE JAR HOLDS ALL LETTERS FROM A-Z.

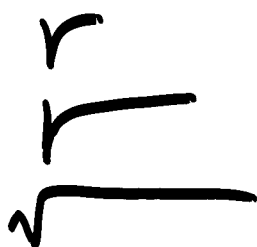
①

Ch. 2-7 Square Roots AND REAL Numbers



RADICAL SIGN, AS
WRITTEN IT MEANS "SQUARE
ROOT"

r latin for root is "radix"



Since $8 \cdot 8 = 64$

$-8 \cdot -8 = 64$

BOTH $-8, 8$ ARE SQUARE ROOTS OF 64

$(-8)^2 = 64 \quad (8)^2 = 64$

$\sqrt{64} = 8$
 $-\sqrt{64} = -8$
 $\pm \sqrt{64} = \pm 8$

(the POSITIVE sq. root is also
called the
PRINCIPAL sq. root)

(2)

$$\begin{aligned} \text{Ex)} \quad & \sqrt{4} \\ & - \sqrt{4} \\ & \pm \sqrt{4} \end{aligned}$$

Since $\sqrt{4} = 2$, it is an integer
(also a natural, whole, rational, real)

$$\begin{aligned} \text{Ex)} \quad & -\sqrt{100} \\ & \sqrt{49} \\ & \pm \sqrt{1} \end{aligned}$$

$$\sqrt{\frac{1}{4}}$$

$$= \frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2}$$

CHECK

$$\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4} \checkmark$$

$$\sqrt{\frac{1}{9}} = \frac{1}{3}$$

So far, all we have looked at
are square roots that are
integers, these are called
Perfect Squares

1	$1^2 = 1$	$\sqrt{1} = 1$
2	$2^2 = 4$	$\sqrt{4} = 2$
3	$3^2 = 9$	$\sqrt{9} = 3$
4	$4^2 = 16$	$\sqrt{16} = 4$
5	$5^2 = 25$	$\sqrt{25} = 5$
6	$6^2 = 36$	$\sqrt{36} = 6$
7	$7^2 = 49$	$\sqrt{49} = 7$
8	$8^2 = 64$	$\sqrt{64} = 8$
9	$9^2 = 81$	$\sqrt{81} = 9$
10	$10^2 = 100$	$\sqrt{100} = 10$

↑
First 10 Perfect Squares

$$\sqrt{1} = 1$$

$$\sqrt{2} = ? \longrightarrow 1.414... \text{ to } \infty$$

$$\sqrt{3} = ? \longrightarrow 1.732... \text{ to } \infty$$

$$\sqrt{4} = 2$$



SQUARE ROOTS THAT ARE NOT
perfect squares ARE NOT
integers, THEY ARE
IRRATIONAL

TO INFINITY, NO PATTERN

* NEED
CALCULATOR
TO FIND

IN THIS CLASS, π AND NON-perfect
square roots ARE THE ONLY IRRATIONAL
numbers we will use.

- Pg 107 # 20 - 28 # 32 - 40
- Read Ch 2-7.