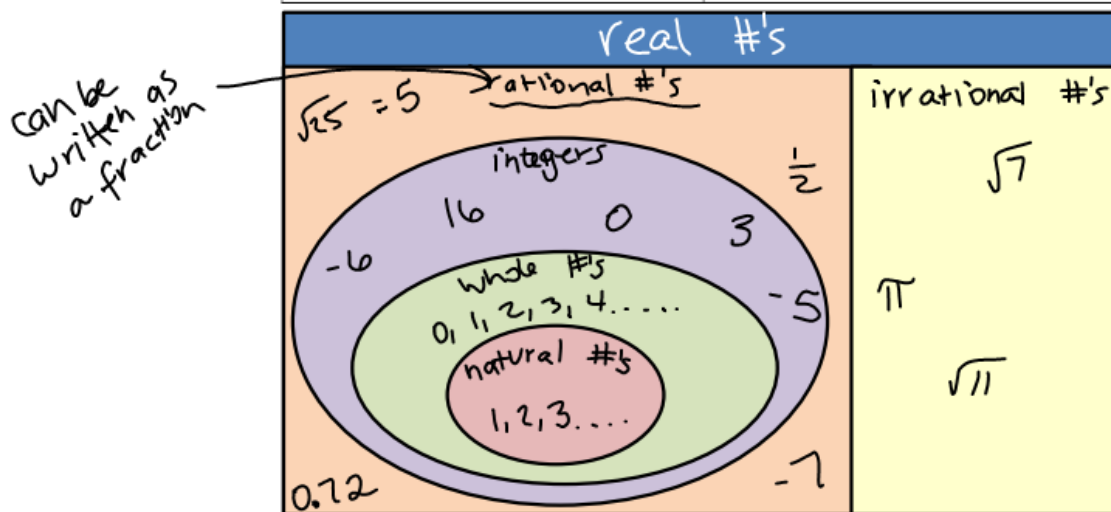


Rational vs. Irrational Numbers (3-7)

<i>irrational numbers</i>	Decode i.r.r.a.t.i.o.n.a.l num.bers
Definition a non-repeating non-terminating decimal	Example 0.181818 π $\sqrt{2}$ 0.6 $\sqrt{7}$ $\sqrt{11}$

<i>real numbers</i>	Decode r.e.a.l num.ber.s
Definition all rational & irrational numbers	Example 2 $\sqrt{5}$ $\frac{1}{2}$ π



Example 1: Classifying Real Numbers

Write all names that apply to each number .

I Do	We Do	You Do
$\sqrt{5}$ irrational	-21.92 rational	$\frac{\sqrt{25}}{5} = \frac{5}{5}$ $= 1$ rational integer whole # natural #

Example 2: Determining the Classification of All NumbersState whether each number is rational, irrational, or not a real number. Justify your answer.

I Do	We Do	You Do
$\sqrt{17}$ irrational b/c non-terminating/ non-repeating decimal	$\frac{8}{0}$ not a real # b/c you can't ÷ by 0	$\sqrt{\frac{1}{16}} = \frac{\sqrt{1}}{\sqrt{16}}$ $= \frac{1}{4}$ rational b/c it's a fraction

Example 3: Negative Square Roots

Find the square root of each number.

I Do	We Do	You Do
$-\sqrt{121}$ $\boxed{-11}$	$\sqrt{-169}$ Not a real # $13 \cdot 13 = 169$ $-13 \cdot -13 = 169$ $-13 \cdot 13 = 169$	$\sqrt{-225}$ Not a real #