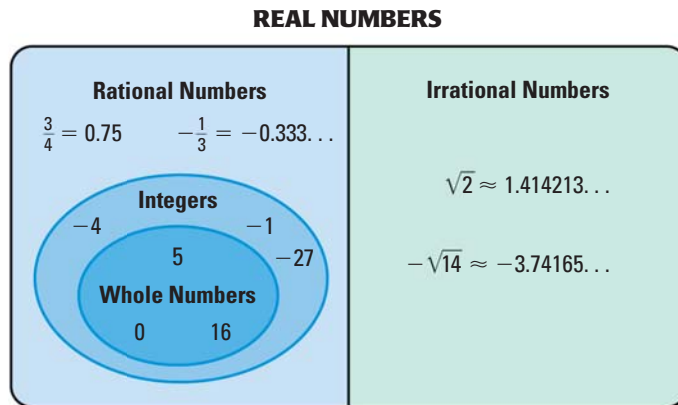


REAL NUMBERS The set of **real numbers** is the set of all rational and irrational numbers, as illustrated in the Venn diagram below. Every point on the real number line represents a real number.



EXAMPLE 3 Classify numbers

Tell whether each of the following numbers is a real number, a rational number, an irrational number, an integer, or a whole number: $\sqrt{24}$, $\sqrt{100}$, $-\sqrt{81}$.

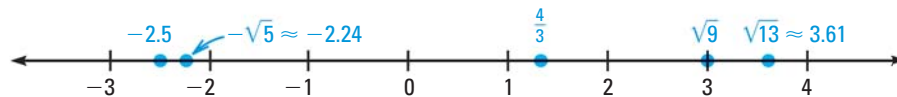
Number	Real number?	Rational number?	Irrational number?	Integer?	Whole number?
$\sqrt{24}$	Yes	No	Yes	No	No
$\sqrt{100}$	Yes	Yes	No	Yes	Yes
$-\sqrt{81}$	Yes	Yes	No	Yes	No

EXAMPLE 4 Graph and order real numbers

Order the numbers from least to greatest: $\frac{4}{3}$, $-\sqrt{5}$, $\sqrt{13}$, -2.5 , $\sqrt{9}$.

Solution

Begin by graphing the numbers on a number line.



► Read the numbers from left to right: -2.5 , $-\sqrt{5}$, $\frac{4}{3}$, $\sqrt{9}$, $\sqrt{13}$.

GUIDED PRACTICE for Examples 3 and 4

9. Tell whether each of the following numbers is a real number, a rational number, an irrational number, an integer, or a whole number: $-\frac{9}{2}$, 5.2 , 0 , $\sqrt{7}$, 4.1 , $-\sqrt{20}$. Then order the numbers from least to greatest.