Reteaching 1-3

OBJECTIVE: Classifying numbers

MATERIALS: None

Review the following chart which shows the different classifications of real numbers.

\[
\begin{array}{c}
\text{Rational} \\
\text{terminating or} \\
\text{repeating decimals}
\end{array}
\rightarrow
\begin{array}{c}
\text{Integers} \\
\ldots -3, -2, -1, 0, 1, 2, 3, \ldots
\end{array}
\rightarrow
\begin{array}{c}
\text{Whole} \\
0, 1, 2, 3, \ldots
\end{array}
\rightarrow
\begin{array}{c}
\text{Natural} \\
1, 2, 3, \ldots
\end{array}
\]

\[
\begin{array}{c}
\text{Real} \\
\text{Irrational} \\
\text{infinite, nonrepeating} \\
\text{decimals}
\end{array}
\]

\[
\begin{array}{c}
\pi, \sqrt{2}, 3.767667666 \ldots
\end{array}
\]

Example

Given the numbers \(-4.4, \frac{14}{5}, 0, -9, 1\frac{1}{4}, -\pi\) and 32, tell which numbers belong to each set.

- **Natural:** 32, numbers used to count
- **Whole:** 0, 32, natural numbers and zero
- **Integers:** 0, -9, 32, whole numbers and their opposites
- **Rational:** \(-4.4, \frac{14}{5}, 0, -9, 1\frac{1}{4}, 32\), integers and terminating and nonrepeating decimals
- **Irrational:** \(-\pi\), infinite, nonrepeating decimals
- **Real:** \(-4.4, \frac{14}{5}, 0, -9, 1\frac{1}{4}, -\pi, 32\), rational and irrational numbers

Exercises

Name the set(s) of numbers to which each number belongs.

1. \(-\frac{5}{6}\) 
2. 35.99 
3. 0 
4. 4\frac{1}{8}

5. \(\sqrt{5}\) 
6. -80 
7. \(\frac{17}{5}\) 
8. \(\frac{12}{3}\)

9. \(\sqrt{100}\) 
10. \(-\sqrt{4}\) 
11. 3.24 
12. 3\pi

Give an example of each kind of number.

13. irrational number
14. whole number

15. negative integer
16. fractional rational number

17. rational decimal
18. natural number