

2. Sets of Numbers

In a given set of numbers, identify which are natural, whole, integers, rational, irrational and imaginary. Remember, a number can belong to more than one set.

$$\left\{-8, \sqrt{6}, \frac{1}{5}, 4-3i, -9\pi, \sqrt[3]{-27}, 0.\bar{3}, \sqrt{16}, 5\frac{1}{2}, \sqrt{-25}, 0, 2\right\}$$

1. List the natural numbers.
2. List the whole numbers.
3. List the integers.
4. List the rational numbers.
5. List the irrational numbers.
6. List the imaginary numbers.

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1. List the natural numbers.

$$\{\sqrt{16}, 2\}$$

$$\sqrt{16} = 4 \text{ We will discuss square roots later.}$$

2. List the whole numbers.

$$\{\sqrt{16}, 0, 2\}$$

3. List the integers.

$$\{-8, \sqrt[3]{-27}, \sqrt{16}, 0, 2\}$$

$$\sqrt[3]{-27} = -3$$

4. List the rational numbers.

$$\left\{-8, \frac{1}{5}, \sqrt[3]{-27}, 0.\bar{3}, \sqrt{16}, 5\frac{1}{2}, 0, 2\right\}$$

$$0.\bar{3} = \frac{1}{3} \text{ It can be rewritten as a fraction.}$$

$$5\frac{1}{2} = \frac{11}{2}$$

5. List the irrational numbers.

$$\{\sqrt{6}, -9\pi\}$$

6. List the imaginary numbers.

$$\{4-3i, \sqrt{-25}\}$$