

## These Are, These Aren't Rational Numbers

Preparation: Copy the set of cards on cardstock, laminate, and cut apart. Each group or pair of students will need one set of cards.

Give each group a set of cards with the instructions to separate the cards into a group of rationals and a group of irrationals. Give groups a piece of chart paper divided into two sections. Label one section "These are rational" and the other section "These are not rational". Students need to record the numbers from the cards that correspond to each group on the chart paper. Post the chart paper and compare groups. Discuss discrepancies using questions such as:

On this chart the number \_\_\_\_ is listed as an irrational number while on another chart it is rational.

- Explain why it was placed in the irrational group?
- Explain why it was placed in the rational group?

The same questions above could also be asked about the numbers which are placed correctly. The idea is to get the criteria for rational and irrational numbers to be verbalized.

### *Assessment Opportunity:*

Ask students to write the answer to the following question on a slip of paper. Students turn the paper in as they leave the class. Answers can be checked for understanding (no grade would need to be given) and then discussed at the beginning of class the following day.

How can you determine if a number is rational or irrational? Give an example of each.

### Answer Key:

#### **Rational**

0.1237

18.7

0.5

$-\frac{2}{3}$

$\frac{4}{7}$

$\sqrt{64}$

6.181818...

16

$\sqrt{36}$

0

-2.6

-6

$\frac{3}{2}$

$4\frac{5}{8}$

#### **Irrational**

0.43682...

$\sqrt{12}$

$-\sqrt{5}$

2.717711777...

$\pi$

**These Are, These Aren't Rational Numbers**

$0.1237$	$18.7$
$0.43682\dots$	$0.5$
$\sqrt{12}$	$-\sqrt{5}$
$-\frac{2}{3}$	$\frac{4}{7}$
$\sqrt{64}$	$6.181818\dots$
$16$	$13.61324$
$\sqrt{36}$	$0$
$2.717711777\dots$	$\pi$
$-2.6$	$-6$
$\frac{3}{2}$	$4\frac{5}{8}$