

$4\frac{2}{3}$	$\frac{1}{4}$	$-\frac{7}{8}$	$\frac{17}{3}$
$\frac{20}{5}$	-16.3	$1.21221222\dots$	23.64
$0.\bar{5}$	π	$0.\bar{83}$	$9.87\bar{5}$
0	$\frac{-2}{3}$	$\frac{6}{-1}$	$\frac{-1}{-1}$

$\sqrt{25}$	2.5689	$\sqrt{26}$	$-\sqrt{81}$
$\sqrt{100}$	$\sqrt{50}$	$\sqrt{17}$	$-\sqrt{56}$
$\sqrt{1}$	$\sqrt{2}$	$\sqrt{\frac{4}{9}}$	-6.5975 1267964 39714....

Name _____

Rational and Irrational Numbers Worksheet

1. Sort the numbers into 2 groups, rational or irrational. Write the numbers in the appropriate bubble.

0.8 $\sqrt{64}$ 0 $\sqrt{32}$ -19 $-\sqrt{100}$ 2.343443444...
 $\frac{3}{7}$ $\sqrt{75}$ $6\frac{2}{7}$ $12.6\bar{7}$ $\sqrt{121}$ $\frac{12}{5}$ π

Rational

Irrational

2. Sort the numbers into 2 groups, rational or irrational. Write the letter of the problem in the appropriate bubble.

(a) $\frac{5}{8} + \frac{3}{5}$

(b) $\sqrt{2} \cdot \sqrt{8}$

(c) $-\frac{1}{2} + \sqrt{2}$

(d) $\sqrt{6} + \sqrt{3}$

(e) $\sqrt{2} \cdot \frac{2}{5}$

(f) $-\frac{3}{4} \cdot \frac{2}{9}$

(g) $\frac{\pi}{2}$

(h) $5\sqrt{6} \cdot \sqrt{6}$

(i) $1 - \pi$

Rational

Irrational

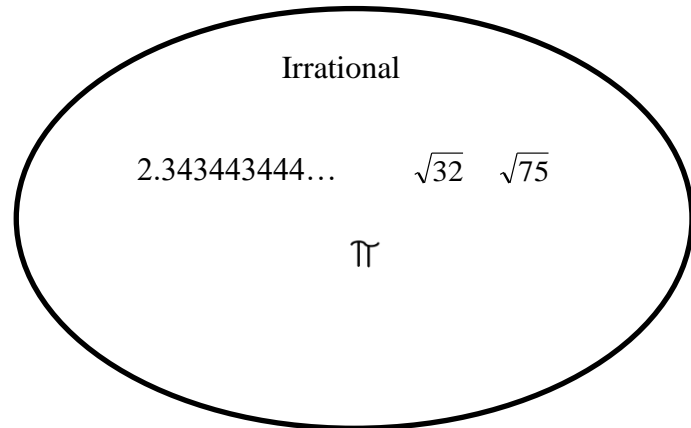
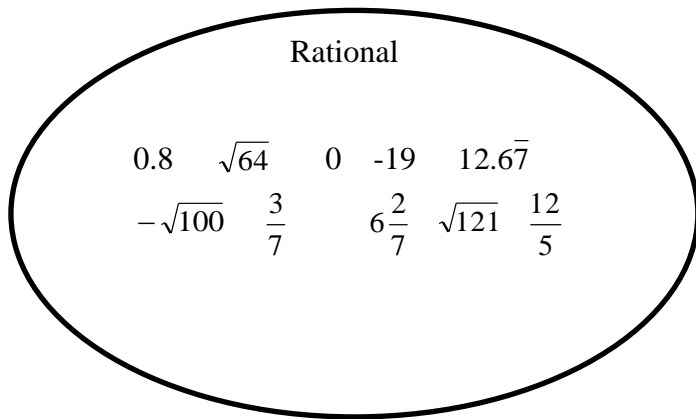
STATEMENT	ALWAYS, SOMETIMES, OR NEVER TRUE	EXAMPLE JUSTIFICATION
The sum of a rational number and an irrational number is irrational.		
The sum of two rational numbers is rational.		
The product of a rational number and an irrational number is irrational.		
The sum of two irrational numbers is irrational.		
The product of two rational numbers is irrational.		
The product of two irrational numbers is irrational.		

Name _____

Rational and Irrational Numbers Worksheet Answer Key

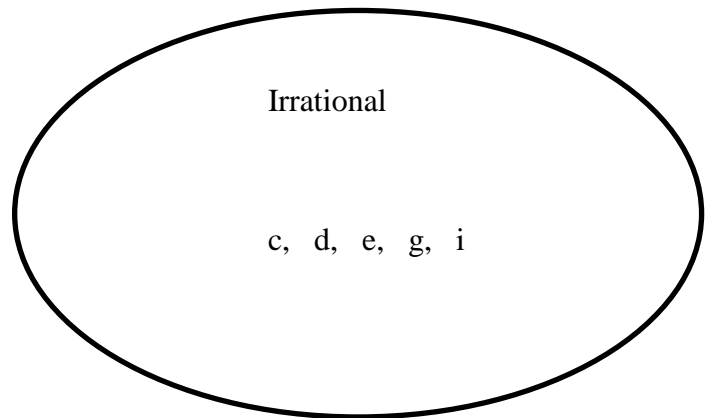
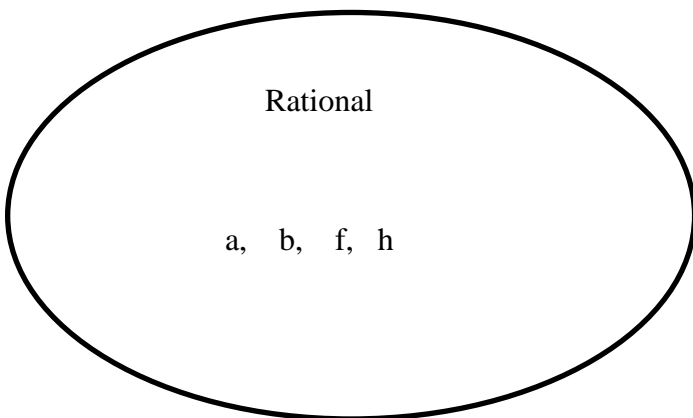
1. Sort the numbers into 2 groups, rational or irrational. Write the numbers in the appropriate bubble.

0.8 $\sqrt{64}$ 0 $\sqrt{32}$ -19 $-\sqrt{100}$ 2.343443444...
 $\frac{3}{7}$ $\sqrt{75}$ $6\frac{2}{7}$ $12.\overline{67}$ $\sqrt{121}$ $\frac{12}{5}$ π



2. Sort the numbers into 2 groups, rational or irrational. Write the letter of the problem in the appropriate bubble.

- (a) $\frac{5}{8} + \frac{3}{5}$ (b) $\sqrt{2} \cdot \sqrt{8}$ (c) $-\frac{1}{2} + \sqrt{2}$
(d) $\sqrt{6} + \sqrt{3}$ (e) $\sqrt{2} \cdot \frac{2}{5}$ (f) $-\frac{3}{4} \cdot \frac{2}{9}$
(g) $\frac{\pi}{2}$ (h) $5\sqrt{6} \cdot \sqrt{6}$ (i) $1 - \pi$



STATEMENT	ALWAYS, SOMETIMES, OR NEVER TRUE	EXAMPLE JUSTIFICATION
The sum of a rational number and an irrational number is irrational.	Always	$3 + \sqrt{3} = 3 + \sqrt{3}$
The sum of two rational numbers is rational.	Always	$2 + 3 = 5$
The product of a rational number and an irrational number is irrational.	Sometimes	$0 \cdot \sqrt{3} = 0$ but $3 \cdot \sqrt{2} = 3\sqrt{2}$
The sum of two irrational numbers is irrational.	Sometimes	$\sqrt{2} + (-\sqrt{2})$
The product of two rational numbers is irrational.	Never	$5 \cdot 4 = 20$
The product of two irrational numbers is irrational.	Sometimes	$\sqrt{2} \cdot \sqrt{4} = \sqrt{8}$ but $\sqrt{2} \cdot \sqrt{18} = 6$