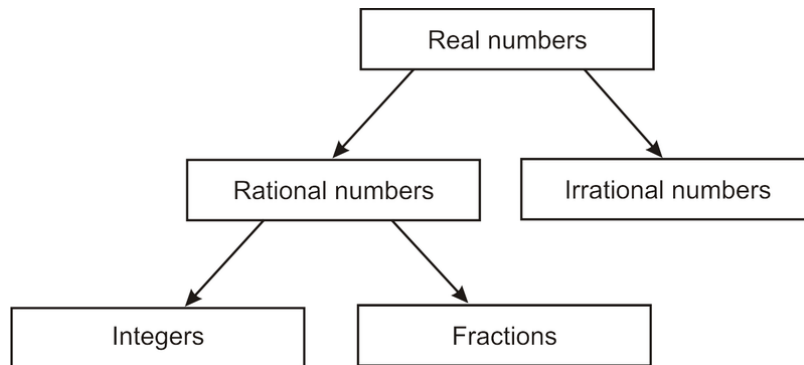


Classwork: Number Classification**Part 1:** Add numerical examples to the following number classification flow-chart:**Part 2:** Fill out the table below, characterizing each number as either rational or irrational:

#	Simplified Answer (use calculator)	Rational Number	Irrational Number
Example) $8 + \frac{2}{3}$	$8.666666... = 8\frac{2}{3}$	✓	
1) 14			
2) $-\frac{2}{5}$			
3) $\sqrt{5}$			
4) $6 \cdot 6$			
5) $6\frac{3}{4} + 2\frac{3}{4}$			
6) $-12.5 + 2\pi$			
7) $-12 \cdot 0$			
8) $12 \cdot \sqrt{2}$			
9) $1 + 3\frac{1}{3}$			
10) $4 \cdot \pi$			
11) $\frac{1}{\sqrt{2}} \cdot \frac{1}{\sqrt{2}}$			
12) $\sqrt{4} + \sqrt{16}$			

Part 3. Regents Review Practice

1. Is the product of $3\sqrt{2}$ and $4\sqrt{2}$ rational or irrational? Explain your answer.

2. Is the sum of 4 and $\sqrt{5}$ rational or irrational? Explain your answer.

3. Which statement is *not* always true?

- 1) The product of two irrational numbers is irrational.
- 2) The product of two rational numbers is rational.
- 3) The sum of two rational numbers is rational.
- 4) The sum of a rational number and an irrational number is irrational.

4. Given: $L = \sqrt{2}$

$$M = 3\sqrt{3}$$

$$N = \sqrt{16}$$

$$P = \sqrt{9}$$

Which expression results in a rational number?

- 1) $L + M$
- 2) $M + N$
- 3) $N + P$
- 4) $P + L$

5. For which value of P and W is $P + W$ a rational number?

- 1) $P = \frac{1}{\sqrt{3}}$ and $W = \frac{1}{\sqrt{6}}$
- 2) $P = \frac{1}{\sqrt{4}}$ and $W = \frac{1}{\sqrt{9}}$
- 3) $P = \frac{1}{\sqrt{6}}$ and $W = \frac{1}{\sqrt{10}}$
- 4) $P = \frac{1}{\sqrt{25}}$ and $W = \frac{1}{\sqrt{2}}$