Fill in the following tables:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Perfect  Square |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Number | 2 | 3 | 4 |
| Perfect Cube |  |  |  |  |  |  |  |  |  | Perfect Fourth |  |  |  |

What is a radical???

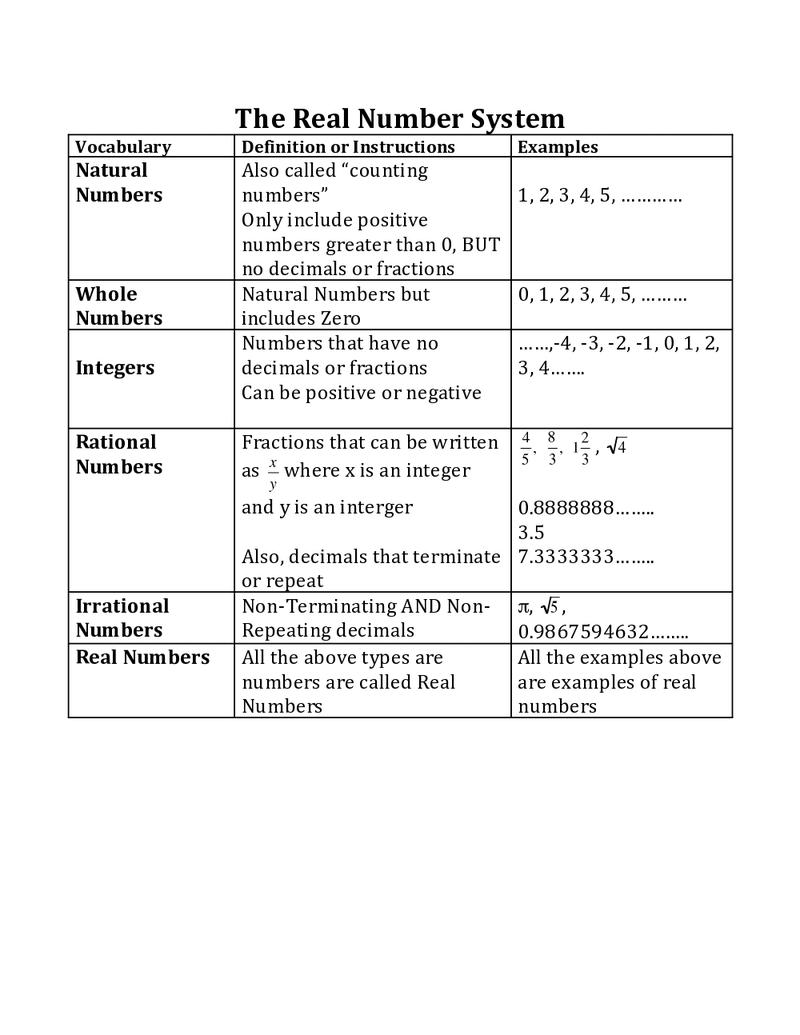
Example 1: Evaluate each radical.

|  |  |  |  |
| --- | --- | --- | --- |
| a) | b) | c) | d) |

**Investigate:**

1. Find two consecutive perfect squares that are closest to 40. \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_
2. Use your result from “a” to estimate to one decimal place. Revise your estimate if needed. No calculators allowed.
3. Find two consecutive perfect cubes that are closest to 60. \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_
4. Use your result from “c” to estimate to one decimal place. Revise your estimate if needed. No calculators allowed.

****



Radicals that are square roots of perfect squares, cube roots of perfect cubes, etc.. are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ numbers. (e.g. from last page  = \_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_\_) .   
Rational numbers have decimal representations that either \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



What about square roots that are NOT perfect squares, or cube roots that are NOT perfect cubes, etc….

(e.g. from last page = \_\_\_\_\_\_\_\_\_\_\_\_\_; = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_). They are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ numbers. Irrational numbers have decimal representations that do not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nor repeat!

Example 2: Determine if each number is rational or irrational and explain how you know.

a)  b) 

e)  f) 0.123123412345123456…

Example 3: Order these numbers from greatest to least on the number line. (You’ll have to draw your own line)

,,,,

**Home Practice:**

**MUST DO:** Page 206: 3 & P. 211: 5, 9, 12 (Please try these questions without a calculator)