



**Activity for 1.1** - Logically sort the following numbers into 6 different groups. Each group may contain only 5 numbers. First, use a piece of scrap paper then fill in the notes with the rest of the class.

25.000	0.142857142857...	$\sqrt{81}$	3.125
$30.1\bar{6}$	$\frac{5}{7}$	11.732050804...	10
0.828427125...	$\sqrt{25}$	$43.\bar{1}$	$\frac{7}{2}$
6.33333333...	307	$\sqrt{16}$	4.5
$7\frac{1}{9}$	$\sqrt{26}$	$\sqrt{50}$	$\sqrt{11}$
$\sqrt{36}$	$\frac{2}{3}$	$\sqrt{75}$	3.60555127...
9.949874371...	$\sqrt{144}$	$8.\bar{3}$	$\frac{21}{10}$
$\sqrt{101}$	7.81024967...		

Group 1	Group 4
Group 2	Group 5
Group 3	Group 6

## 1.1 Rational Numbers vs Irrational Numbers

**Class Notes** - State whether the expression is rational or irrational. Justify your answer.

LP#1 $\frac{7}{9}$	$\sqrt{121}$	4.1111111111...	$\sqrt{12}$	10.05095482...
LP#2 $\frac{41}{20}$	5.25	$25.2\bar{7}$	$7\frac{4}{5}$	$\sqrt{71}$

**Review** - State whether the expression is rational or irrational. Justify your answer.

R#1 $\sqrt{4}$	$\frac{9}{11}$	$\sqrt{56}$	$1\frac{8}{9}$	11.375
R#2 8.83876326...	0.6666666666...	$\sqrt{225}$	$3.7\bar{3}$	$\frac{15}{17}$
R#3 10.00004	$\sqrt{31}$	$2\frac{11}{12}$	$\frac{6}{19}$	$5.25\bar{1}$

### Homework Problems

State whether the expression is rational or irrational. Justify your answer.

- 1) 13      2)  $\frac{3}{16}$       3)  $\sqrt{62}$       4) 5.4059216...      5)  $7.\bar{3}$       6)  $7\frac{16}{17}$
- 7)  $12.2\bar{6}$       8)  $\sqrt{49}$       9)  $\frac{16}{29}$       10) 0.2222222...      11)  $1\frac{10}{11}$       12) 0.050126...
- 13)  $\frac{1}{14}$       14)  $9\frac{18}{19}$       15) 11.161095...      16)  $\sqrt{7}$       17) 0.4545...      18)  $11.\bar{6}$
- 19)  $\sqrt{100}$       20)  $7\frac{16}{21}$       21) 0.909090...      22) 8.85896421...      23)  $\frac{4}{11}$       24)  $278.2\bar{3}$
- 25)  $6\frac{1}{12}$       26) 12.437698...      27)  $0.23\bar{1}$       28) 0.0666666...      29)  $\sqrt{3}$       30)  $\frac{1}{2}$

Fill in the blanks.

- 31)  $1, \sqrt{2}, \sqrt{3}, 2, \_, \_, \sqrt{6}, \sqrt{7}, \_, \_$       32) 1.28571428\_\_714\_\_...      33) 1, 4, \_\_, 16, 25, \_\_
- 34)  $\sqrt{24}, \_, \_, \sqrt{26}, \_, \_, \sqrt{28}, \sqrt{29}$       35) 0.727272\_\_2\_\_27272...      36) 81, 100, \_\_, 144, \_\_