# Worksheet Level 2:

**Goals:**

**Identify Rational & Irrational #s**

Concept # _____

**Practice #1**

**Classify each number as RATIONAL (Q) or IRRATIONAL (I)**

1) $\sqrt{47}$ I

2) $\frac{11}{9}$ R

3) $\frac{19}{4}$ R

4) $\sqrt{96}$ $2\sqrt{24}$ $4\sqrt{6}$ I

5) $\frac{19}{14}$ R

6) $\frac{15}{4}$ R

7) $\sqrt{84}$ $2\sqrt{21}$ I

8) $-9$ R

9) $\sqrt{72}$ $3\sqrt{8}$ $6\sqrt{2}$ I

10) 0 R

11) $\frac{8}{9}$ R

12) 3 R

13) 7 R

14) $-7$ R

15) $-4$ R

16) 5 R

17) $-11$ R

18) $-14$ R

19) $\sqrt{59}$ I

20) 9 R

**Practice #2**

**Tell whether each expression is *rational* or *irrational*.**

1. $-\sqrt{64} = -8$ R

2. $\sqrt{1600} = 40$ R

3. $\pm\sqrt{160}$ I $\pm 4\sqrt{10}$

4. $\sqrt{144}$ 12 R

5. $\sqrt{125}$ $5\sqrt{5}$ I

6. $-\sqrt{340}$

7. $\sqrt{1.96}$

8. $-\sqrt{0.09}$

## Practice #3

1. Which set below includes only irrational numbers?

   A. $\{-\sqrt{12},\ -3.7\overline{6},\ \sqrt{36},\ 4.3858\ldots\}$

   B. $\{-7.2322\ldots,\ \sqrt{5},\ \sqrt{15},\ 8.27451\ldots\}$

   C. $\{-5.6,\ \sqrt{14},\ 6.3\overline{245},\ \sqrt{81}\}$

   D. $\{-\sqrt{8},\ .3\overline{7},\ 3.265165065\ldots,\ \sqrt{90}\}$

2. Which set contains only irrational numbers

   A. $\{-8,\ -\sqrt{4},\ \sqrt{3},\ \sqrt{16}\}$

   B. $\{-\sqrt{64},\ \sqrt{0},\ \sqrt{19},\ \sqrt{13}\}$

   C. $\{-\sqrt{26},\ -\sqrt{16},\ \sqrt{2},\ \sqrt{8}\}$

   D. $\{-\sqrt{50},\ -\sqrt{13},\ \sqrt{10},\ \sqrt{54}\}$

3. Which set contains an irrational number?

   A. $\{2300,\ 0.48,\ \frac{13}{1}\}$

   B. $\{18,\ 0.1,\ \frac{12}{5}\}$

   C. $\{\frac{3}{8},\ 4,\ \sqrt{52}\}$

   D. $\{0.333\ldots,\ \sqrt{4},\ 10\}$

4. Which of the following is an irrational number?

   A. $\sqrt{16}$ B. $\sqrt{144}$ C. $\sqrt{4}$ D. $\sqrt{3}$

5. Which of the following is an irrational number?

   A. $\frac{4}{5}$ B. $\sqrt{24}$ C. $\sqrt{81}$ D. $-4.07$

6. Which list contains only rational numbers?

   A. $-4,\ 0,\ \frac{1}{4},\ \sqrt{\frac{9}{4}}$ B. $0,\ \frac{1}{2},\ 1.5,\ \sqrt{8}$

   C. $-2,\ 1,\ 2.\overline{6},\ \sqrt{\frac{3}{2}}$ D. $0,\ 0.\overline{36},\ 4,\ \sqrt{24}$

7. What type of number is $\sqrt{26}$?

   A. Whole number B. Integer

   C. Rational number D. Irrational number

8. Which number below is an element in the set of irrational numbers?

   $\sqrt{4},\ 3.45,\ -8.7,\ \sqrt{2}$

   A. $\sqrt{4}$ B. 3.45 C. $-8.7$ D. $\sqrt{2}$

9. Which set of real numbers contains only rational numbers?

   A. $\{\sqrt{121},\ \sqrt{196},\ \sqrt{24},\ 12\}$

   B. $\{\sqrt{144},\ \frac{13}{2},\ \frac{5}{3},\ \sqrt{3}\}$

   C. $\{\sqrt{169},\ \frac{5}{2},\ \sqrt{121},\ \frac{14}{4}\}$

   D. $\{\sqrt{169},\ \frac{58}{3},\ \frac{13}{2},\ \sqrt{31}\}$