## The Rational Number System Multiple Choice Quiz

1. Classify $56 / 3$.
a. real
b. real, rational
c. real, rational, whole, integer
d. real, rational, integer
2. Classify $\sqrt{3}$
a. irrational
b. rational
c. real, irrational
d. real, rational, integer
3. Classify $48+\sqrt{36}$
a. real, rational, whole, natural, integer b. real, irrational
c. real, irrational, whole, integer
d. real, rational, whole, integer
4. Classify $\sqrt{63}$
a. real, irrational
b. real, rational
c. real, rational, integer
d. real, rational, whole, integer, natural
5. Classify $1 / 3$
a. real, irrational
b. real, rational, integer
c. real, rational, whole, natural
d. real, rational, whole, natural, integer
6. Classify $0.3527974 \ldots$
a. real, rational, whole
b. real, rational, integer
c. real, irrational, whole
d. real, irrational
7. Classify 0
a. real, irrational
b. real, rational, whole, natural, integer
c. real, rational, whole, integer
d. real, rational, integer
8. Classify $\sqrt{100}$
a. real, rational, whole, natural, integer
b. real, irrational, integer
c. real, whole, integer
d. rational
9. Which of the following numbers are real?
a. $\sqrt{7}$
b. 0.5364923
C. $1 / 2$
d. All of the above
10. Which of the following numbers are irrational?
a. 4,539
b. 0.254254
c. $\sqrt{2}$
d. $1 / 3$

# The Rational Number System Multiple Choice Quiz Solutions 

1. Classify $56 / 3$
a. real
b. real, rational
c. real, rational, whole, integer
d. real, rational, integer

Correct Answer is: D - Real, rational, and integer because 18.6666.. is a repeating decimal but decimals cannot be whole numbers.
2. Classify $\sqrt{3}$
a. irrational
b. rational
c. real, irrational
d. real, rational, integer

Correct Answer is: C - Real, irrational because the decimal, 1.7320508... does not repeat or terminate.
3. Classify $48+\sqrt{36}$
a. real, rational, whole, natural, integer b. real, irrational
c. real, irrational, whole, integer
d. real, rational, whole, integer

Correct Answer is: A - Real, rational, whole, natural, and integer because the answer is 54 when expressed in standard form.
4. Classify $\sqrt{63}$
a. real, irrational
b. real, rational
c. real, rational, integer
d. real, rational, whole, integer, natural

Correct Answer is: A - Real, irrational because the decimal, 7.937253... does not repeat or terminate.
5. Classify $1 / 3$
a. real, irrational
b. real, rational, integer
c. real, rational, whole, natural
d. real, rational, whole, natural, integer

Correct Answer is: B - Real, rational, integer because the decimal, 0.3333...repeats.
6. Classify $0.3527974 \ldots$
a. real, rational, whole b. real, rational, integer
c. real, irrational, whole
d. real, irrational

Correct Answer is: D - Real, irrational because the decimal does not repeat or terminate.
7. Classify 0
a. real, irrational
b. real, rational, whole, natural, integer
c. real, rational, whole, integer d. real, rational, integer

Correct Answer is: C - Real, rational, whole, integer because 0 is not considered a counting number 1, 2, 3, etc.
8. Classify $\sqrt{100}$
a. real, rational, whole, natural, integer b. real, irrational, integer
c. real, whole, integer
d. rational

Correct Answer is: A - Real, rational, whole, natural, integer because $\sqrt{\mathbf{1 0 0}}$ when expressed in standard form is 10.
9. Which of the following numbers are real?
a. $\sqrt{7}$
b. 0.5364923
C. $1 / 2$
d. All of the above

Correct Answer is: D - Both rational and irrational numbers are real.
10. Which of the following numbers are irrational?
a. 4539
b. 0.254254
c. $\sqrt{2}$
d. $1 / 3$

Correct Answer is: C - $\sqrt{2}$ cannot be expressed as a fraction and, when written as a decimal, does not repeat or terminate.

