

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...

- 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. $\frac{1}{2}$ d. All of the above

10. Which of the following numbers are irrational?

- a. 4,539 b. 0.254254 c. $\sqrt{2}$ d. $\frac{1}{3}$

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...

- 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 $\sqrt{100}$ when expressed in standard form is 10.

9. Which of the following numbers are real?

- a. $\sqrt{7}$ b. 0.5364923 c. $\frac{1}{2}$ 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. 4 539 b. 0.254254 c. $\sqrt{2}$ d. $\frac{1}{3}$

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