

NAME: _____

1. Which of these sets of numbers contains no rational numbers?

[A] π , $\frac{1}{2}$, -13

[B] $-3.5041\dots$, $\sqrt{99}$, 0.143635

[C] -6 , $-\sqrt{225}$, $4\frac{7}{8}$ [D] $\sqrt{21}$, 0.75 , 0

2. Which fraction represents a repeating decimal?

[A] $\frac{4}{5}$ [B] $\frac{1}{2}$ [C] $\frac{3}{4}$ [D] $\frac{5}{6}$

3. What is the best classification for -4 ?

[A] irrational number, real number

[B] integer, rational number, real number

[C] whole number, integer, real number

[D] rational number, real number

4. Which of the following square roots is an irrational number?

[A] $-\sqrt{16}$ [B] $\sqrt{64}$

[C] $\sqrt{8}$ [D] $\sqrt{\frac{1}{64}}$

5. The number 0.8 belongs to which of these sets? natural numbers, whole numbers, integers, rational numbers, irrational numbers, and real numbers. Name all that apply.

6. Given the following set of numbers, name the irrational numbers.

23 , $\sqrt{3}$, 2.35 , 0 , -6.5555 , $\frac{4}{9}$, -2

7. State whether $\sqrt{168}$ is a rational or an irrational number.

8. Classify $\sqrt{9}$ as rational or irrational.

9. Let N be the set of natural numbers, Z the set of integers, Q the set of rational numbers, and R the set of real numbers. Indicate to which sets each of the following belong:

a. -70 b. $0.333\dots$ c. 22 d. $2.7182\dots$

10. Find the equivalent decimal for each fraction below and determine whether each decimal is repeating or non-repeating, and terminating or non-terminating.

$\frac{3}{8}$ $\frac{5}{6}$ $\frac{12}{15}$ $\frac{7}{11}$

11. The formula $s = \sqrt{15d}$ relates the length of a skid mark d with the speed the car was traveling, s . If you solved the equation, what type of number would s be if $0 < d < 15$? If $d = 15$?

12. Write an expression containing a negative, irrational square root.

[1] B

[2] D

[3] B

[4] C

[5] rational numbers, real numbers

[6] $\sqrt{3}$

[7] irrational

[8] rational

[9] a. Z, Q, R b. Q, R c. N, Z, Q, R d. R

$\frac{3}{8} = 0.375$, nonrepeating, terminating; $\frac{5}{6} =$

$0.8\overline{3}$, repeating, nonterminating; $\frac{12}{15} = 0.8$,

nonrepeating, terminating; $\frac{7}{11} = 0.6\overline{3}$,

[10] repeating, nonterminating

[11] real, irrational; real, rational, whole

[12] Answers may vary. Sample: $-\sqrt{50}$