

Section 1-3: The Irrational Numbers

The Set of Irrational Numbers

1. 080208a, P.I. 7.N.17

The number $0.14114111411114\dots$ is

- [A] integral [B] rational
[C] whole [D] irrational

More Irrational Numbers

2. 010632a, P.I. 7.N.2

Write an irrational number and explain why it is irrational.

3. 010416a, P.I. 7.N.2

Which number is irrational?

- [A] $\sqrt{8}$ [B] 0.3333 [C] $\sqrt{9}$ [D] $\frac{2}{3}$

4. 060303a, P.I. 7.N.2

Which expression represents an irrational number?

- [A] $\frac{1}{2}$ [B] $\sqrt{2}$ [C] 0.17 [D] 0

5. 010219a, P.I. 7.N.2

Which is an irrational number?

- [A] $\sqrt{3}$ [B] 3.14 [C] $\sqrt{9}$ [D] $\frac{3}{4}$

6. 060211a, P.I. 7.N.2

Which is an irrational number?

- [A] 0 [B] π [C] $\sqrt{9}$ [D] $-\frac{1}{3}$

7. 080523a, P.I. 7.N.2

Which is an irrational number?

- [A] $\sqrt{49}$ [B] π [C] $\frac{3}{8}$ [D] $0.\bar{3}$

8. 080718a, P.I. 7.N.2

Which number is irrational?

- [A] π [B] $\sqrt{121}$ [C] $\frac{5}{4}$ [D] $0.\bar{3}$

9. 080432a, P.I. 7.N.2

Given: $\frac{\sqrt{99}}{11}$, $\sqrt{164}$, $\sqrt{196}$

Identify the expression that is a rational number and explain why it is rational.

10. 060120a, P.I. 7.N.2

Which is a rational number?

- [A] $5\sqrt{9}$ [B] $6\sqrt{2}$ [C] $\sqrt{8}$ [D] π

[1] D _____

[2] An irrational number is written, and an appropriate explanation is written, such as an irrational number cannot be written as a fraction or as a repeating or terminating decimal.

[1] An irrational number is written, such as π or the square root of a nonperfect square, but no explanation or an inappropriate explanation is written.

or [1] A correct definition of an irrational number is written, but the example is missing or is inappropriate.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[2] incorrect procedure. _____

[3] A _____

[4] B _____

[5] A _____

[6] B _____

[7] B _____

[8] A _____

[2] $\sqrt{196}$, and an appropriate explanation is given.

[1] An incorrect answer is chosen, but an appropriate explanation is given.

or [1] $\sqrt{196}$, but no explanation or an incorrect explanation is given.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[9] incorrect procedure. _____

[10] A _____