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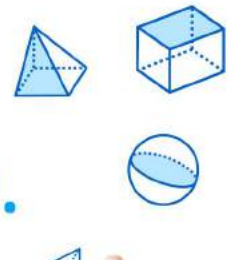

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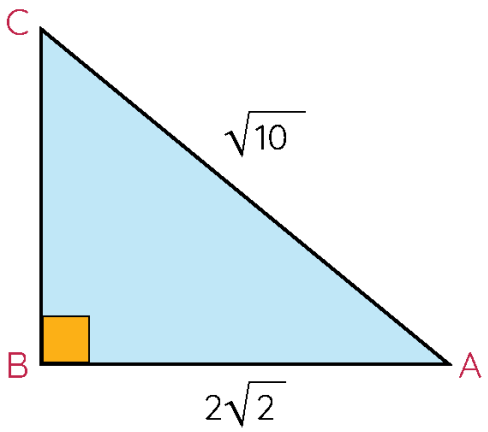
8th Grade Rational And Irrational Numbers Worksheets

Determine if the number is rational or irrational for questions 1-5

1. $75.082\underline{106}$
2. π
3. $89.396668...$
4. $\frac{1}{4}$
5. $20.455566...$
6. Which of the following statements are true?
   a. Every rational number is an integer
   b. Every natural number is a rational number
   c. Every whole number is a natural number
   d. Every natural number is a whole number
7. Alpha is standing at the origin of a two-dimensional plane. He moves two units to the east, and three units to the north. His new position can be defined in complex form as _____

8. Consider the following right angle triangle



Let the perimeter of this triangle be represented by l and area by A. Which of the following statements are true?

a. Both l and A are rational

b. l is rational while A is irrational

c. l is irrational while A is rational

d. Both l and A are irrational

9. The square-root of $99 + 70\sqrt{2}$ is of the form $a + b\sqrt{2}$, where a and b are positive integers. The value of a+b is ____.

10. If $x = \frac{1}{2+\sqrt{3}}$, then find the value of $2x^3 - 7x^2 - 2x + 1$

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- Barbara Cabrera

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ANSWERS

1.	R
2.	I
3.	I
4.	R
5.	I
6.	b. Every natural number is a rational number d. Every natural number is a whole number
7.	2+3i
8.	c. l is irrational while A is rational
9.	12
10.	0

FUN FACT

- The first proof of the existence of irrational numbers is usually attributed to a Pythagorean (possibly Hippasus of Metapontum),[5] who probably discovered them while identifying sides of the pentagram.
- Classical Greek and Indian mathematicians made studies of the theory of rational numbers, as part of the general study of number theory. The best known of these is Euclid's Elements, dating to roughly 300 BC.
- Geometrical and mathematical problems involving irrational numbers such as square roots were addressed very early during the Vedic period in India.