

Exercise 1.12 (Rational Numbers and Irrational Numbers)

Q1. Select the correct answer

(i) Which one of the following is NOT irrational?

A $\sqrt{2}$

B $\sqrt{144}$

C $\sqrt{5}$

D $\sqrt{8}$

(ii) How many numbers in the following list are irrational?

$$\sqrt{3}, \pi, \sqrt[3]{5}, \frac{1}{3}, \frac{22}{7}, \sqrt{36}, \sqrt[5]{2}$$

A 1

B 4

C 5

D 3

(iii) Which one of the following is NOT irrational?

A $\sqrt{2} + \sqrt{6}$

B $\sqrt{2} + 7$

C $\sqrt{2+7}$

D $\sqrt{2+8}$

Q2. Which of the following is a **rational**?

(i) A $\sqrt{2}$

B $\sqrt[3]{4}$

C $\sqrt[3]{8}$

D $\sqrt{10}$

(ii) A $\sqrt{2} + \sqrt{8}$

B $\sqrt{2} - \sqrt{8}$

C $\sqrt{8} \div \sqrt{2}$

D $\sqrt{9} \times \sqrt{8}$

(iii) A $\sqrt{0.016}$

B $\sqrt{1.69}$

C $\sqrt{16.9}$

D $\sqrt{169000}$

Q3. Write an irrational number between 1 and 2

Q4. Write an irrational number between 3 and 4

Q5. Write an irrational number between 11 and 12

Q6. Write a rational number between $\sqrt{7}$ and $\sqrt{17}$

Q7. How many integers between $\sqrt{120}$ and $\sqrt{200}$

Answers: Exercise 1.12

Q1i) B, Q1ii) B, Q1iii) C, Q1iv) C Q2i) A, Q2ii) C, Q2iii) B, Q2iv) B

Q3) $\sqrt{2}$ Q4) $\sqrt{10}$ Q5) $\sqrt{123}$ Q6. $\sqrt{9}$ Q7. 4

