

01 Number Systems

(Work Sheet – 1)

- Write all the natural numbers less than 12.
- Write all the whole numbers less than 15.
- Write the collection of perfect square natural numbers less than 200.
- Write the collection of prime natural numbers which are less than 50. What is the total number of primes in this collection?
- Find a rational number between $\frac{-2}{3}$ and $\frac{1}{4}$.
- Find five rational numbers between $\frac{1}{8}$ and $\frac{1}{5}$.
- Find three rational numbers between – 2 and 5.
- Represent $\sqrt{2}$, $\sqrt{3}$ and $\sqrt{5}$ on the real line. (Separate figures)
- Convert each of the following into a decimal:

(a) $\frac{5}{8}$	(b) $\frac{9}{16}$	(c) $\frac{7}{25}$	(d) $\frac{11}{25}$	(e) $2\frac{5}{12}$
(f) $\frac{42}{100}$	(g) $\frac{15}{4}$	(h) $-\frac{4}{9}$	(i) $-\frac{2}{15}$	(j) $\frac{33}{26}$
- Express each of the following as a fraction in simplest form:

(a) $0.\bar{3}$	(b) $1.\bar{3}$	(c) $0.\overline{34}$	(d) $3.\overline{14}$
(e) $0.\overline{324}$	(f) $0.1\bar{7}$	(g) $0.5\bar{4}$	(h) $0.1\overline{63}$
- Write recurring decimal expressions for the rational numbers $\frac{1}{21}$ and $\frac{1}{14}$ and hence write two irrational numbers between these two numbers.

- Express the rational number $\frac{1}{27}$ in recurring decimal form by using the recurring decimal expression of $\frac{1}{3}$. Hence write $\frac{59}{27}$ in recurring decimal form.
- Find an irrational number between 5 and 8.
- Find two irrational numbers lying between $\sqrt{2}$ and $\sqrt{3}$.
- Find an irrational number between $\frac{1}{3}$ and $\frac{3}{7}$.
- Find three different irrational numbers between:

(a) $\frac{1}{7}$ and $\frac{3}{13}$	(b) $\frac{2}{7}$ and $\frac{4}{11}$
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- Classify the following numbers as rational or irrational. Give the decimal representation of rational numbers:

(a) $\sqrt{17}$	(b) $\sqrt{169}$	(c) $\frac{\sqrt{25}}{\sqrt{9}}$	(d) 2.047
(e) $\sqrt{0.0144}$	(f) 2.123123.....	(g) 2.2002000200002.....	
(h) $3\sqrt{18}$	(i) $-\sqrt{64}$		

- Represent $\sqrt{3.5}$, $\sqrt{9.4}$ and $\sqrt{10.5}$ on the real number line.

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