STEINMONT PUBLIC SCHOOL

Class IX

MATHEMATICS

Time: 1 hour Max. Marks: 20

SECTION A (4*1)

1) All the rational and irrational numbers make up the collection of ----------
2) State whether the statement is true or false: Every rational number is a whole number.
3) Define irrational numbers.
4) The decimal expansion of an irrational number is ----------

SECTION B (3*2)

5) Express 0. 47777…… in the form of $\frac{p}{q}$, where p and q are integers and $q \neq 0$.
6) Check whether the following numbers are rational or irrational:
   a) 7.478478……. b) $\sqrt{23}$
7) Rationalise the denominators of the following :
   a) $\frac{1}{\sqrt{7}}$ b) $\frac{1}{\sqrt{5}+\sqrt{2}}$

SECTION C (2*3)

8) Show that √5 can be represented on the number line.
9) Write the following in decimal form and say what kind of decimal expansion each has:
   a) $4\frac{1}{8}$ b) $\frac{3}{13}$

SECTION D (1*4)

10) Simplify each of the following expressions:
   a) $(3 + \sqrt{3})(2 + \sqrt{2})$ b) $(\sqrt{5} + \sqrt{2})^2$