<u>ACADEMIC YEAR 2022-23</u>
<u>Worksheet No. 1</u>
<u>Subject:MATHEMATICS</u>

<u>Grade: IX   CH-1-NUMBER SYSTEM</u>

1. Rational number $\dfrac{3}{40}$ is equal to:

   (a) 0.75   (b) 0.12   (c) 0.012   (d) 0.075

2   Which one of the following is not a rational number:

   (a) $\sqrt{2}$ (b) 0   (c) $\sqrt{4}$ (d) $\sqrt{-16}$

3   The value of $\left(3+\sqrt{3}\right)\left(3-\sqrt{3}\right)$ is:

   (a) 0   (b) 6   (c) 9   (d) 3

4   The value of $\left(\sqrt{5}+\sqrt{2}\right)^{2}$ is:

   (a) $7+2\sqrt{5}$ (b) $1+5\sqrt{2}$ (c) $7+2\sqrt{10}$ (d) $7-2\sqrt{10}$

5   The value of $\left(\sqrt{5}+\sqrt{2}\right)\left(\sqrt{5}-\sqrt{2}\right)$ is:

   (a) 10   (b) 7   (c) 3   (d) $\sqrt{3}$

6 Represent the real number $\sqrt{10}$ on the number line.

7   Rationalize the denominator of the following:

   $(i)\dfrac{2}{3\sqrt{3}}$ $(ii)\dfrac{16}{\sqrt{41}-5}$ $(iii)\dfrac{\sqrt{5}+\sqrt{2}}{\sqrt{5}-\sqrt{2}}$

8   Simplify, by rationalizing the denominator

$$\dfrac{1}{3-\sqrt{8}}-\dfrac{1}{\sqrt{8}-\sqrt{7}}+\dfrac{1}{\sqrt{7}-\sqrt{6}}-\dfrac{1}{\sqrt{6}-\sqrt{5}}+\dfrac{1}{\sqrt{5}-2}$$