

Mathematics

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(Chapter – 1) (Number Systems)(Exemplar Problems)

(Class – IX)

Exercise 1.4

Question 3:

If $\sqrt{2} = 1.414$, $\sqrt{3} = 1.732$, then find the value of $\frac{4}{3\sqrt{3}-2\sqrt{2}} + \frac{3}{3\sqrt{3}+2\sqrt{2}}$.

Answer 3:

Given that:

$$\begin{aligned} & \frac{4}{3\sqrt{3}-2\sqrt{2}} + \frac{3}{3\sqrt{3}+2\sqrt{2}} \\ &= \frac{4(3\sqrt{3}+2\sqrt{2})+3(3\sqrt{3}-2\sqrt{2})}{(3\sqrt{3}-2\sqrt{2})(3\sqrt{3}+2\sqrt{2})} \end{aligned}$$

$$= \frac{12\sqrt{3}+8\sqrt{2}+9\sqrt{3}-6\sqrt{2}}{(3\sqrt{3})^2-(2\sqrt{2})^2}$$



$$= \frac{21\sqrt{3}+2\sqrt{2}}{27-8}$$

$$= \frac{21 \times 1.732 + 2 \times 1.414}{19}$$

$$= \frac{36.372 + 2.828}{19}$$

$$= \frac{39.2}{19}$$

$$= 2.063$$

