

EduSahara™ Learning Center Assignment**Grade : Class IX, SSC****Chapter : Real Numbers****Name : Simplification**

1. Simplify $\frac{(-\sqrt{3})}{(-\sqrt{4}-\sqrt{2})} + \frac{(-\sqrt{5})}{(-\sqrt{2}+\sqrt{4})} + \frac{\sqrt{5}}{(\sqrt{2}+\sqrt{4})}$

(i) $(\sqrt{3} - \frac{1}{2}\sqrt{6} - 10)$

(ii) $(\sqrt{3} - \frac{1}{2}\sqrt{8} - \sqrt{10})$

(iii) $(\sqrt{3} - \frac{1}{2}\sqrt{6} - \sqrt{10})$

(iv) $(\sqrt{3} - \frac{1}{2}\sqrt{6} - \sqrt[4]{10})$

(v) $(\sqrt{3} - \frac{1}{2}\sqrt{3} - \sqrt{10})$

2. Simplify $\frac{\sqrt{5}}{(-\sqrt{7}-\sqrt{9})} - \frac{(-\sqrt{5})}{(-\sqrt{7}+\sqrt{8})} - \frac{(-\sqrt{3})}{(\sqrt{2}-\sqrt{3})}$

(i) $(\frac{3}{2}\sqrt{35} - \frac{3}{2}\sqrt{5} + 2\sqrt{10} - \sqrt{6} - 3)$

(ii) $(\frac{3}{2}\sqrt{32} - \frac{3}{2}\sqrt{5} + 2\sqrt{10} - \sqrt{6} - 3)$

(iii) $(\frac{3}{2}\sqrt{35} - \frac{3}{2}\sqrt{5} + 2\sqrt[4]{10} - \sqrt{6} - 3)$

(iv) $(\frac{3}{2}\sqrt{35} - \frac{3}{2}\sqrt[4]{5} + 2\sqrt{10} - \sqrt{6} - 3)$

(v) $(\frac{3}{2}\sqrt{35} - \frac{3}{2}\sqrt{5} + 2\sqrt{10} - \sqrt{9} - 3)$

3. Simplify $\frac{\sqrt{5}}{(-\sqrt{3} + \sqrt{5})} - \frac{(-\sqrt{4})}{(\sqrt{2} - \sqrt{3})} + \frac{(-\sqrt{3})}{(\sqrt{5} + \sqrt{2})}$

(i) $(\frac{1}{6}\sqrt{15} + \frac{5}{2} - 2\sqrt{2} - 2\sqrt{3} + \frac{1}{3}\sqrt{6})$

(ii) $(\frac{1}{6}\sqrt{15} + \frac{5}{2} - 2\sqrt{2} - 2\sqrt{3} + \frac{1}{3}\sqrt{6})$

(iii) $(\frac{1}{6}\sqrt{12} + \frac{5}{2} - 2\sqrt{2} - 2\sqrt{3} + \frac{1}{3}\sqrt{6})$

(iv) $(\frac{1}{6}\sqrt{15} + \frac{9}{4} - 2\sqrt{2} - 2\sqrt{3} + \frac{1}{3}\sqrt{6})$

(v) $(\frac{1}{6}\sqrt{15} + \frac{5}{2} - 2\sqrt{2} - 2\sqrt{5} + \frac{1}{3}\sqrt{6})$

4. Simplify $\frac{\sqrt{8}}{(-\sqrt{6} + \sqrt{4})} - \frac{\sqrt{2}}{(-\sqrt{7} - \sqrt{3})} + \frac{\sqrt{2}}{(-\sqrt{6} + \sqrt{9})}$

(i) $(-\frac{4}{3}\sqrt{3} - \sqrt{2} + \frac{1}{4}\sqrt{14} - \frac{1}{4}\sqrt{6})$

(ii) $(-\frac{4}{3}\sqrt{3} - \sqrt{2} + \frac{1}{4}\sqrt{14} - \frac{1}{4}\sqrt{9})$

(iii) $(-\frac{4}{3} - \sqrt{2} + \frac{1}{4}\sqrt{14} - \frac{1}{4}\sqrt{6})$

(iv) $(-\frac{4}{3}\sqrt{3} - \sqrt{2} + \frac{1}{4}\sqrt{14} - \frac{1}{4}\sqrt{6})$

(v) $(-\frac{4}{3}\sqrt{3} - \sqrt{2} + \frac{1}{4}\sqrt{14} - \frac{1}{4}\sqrt{6})$

5. Simplify $\frac{\sqrt{3}}{(\frac{2}{5} - \frac{4}{3})} - \frac{\sqrt{3}}{(\frac{5}{4} - \frac{3}{5})} - \frac{\sqrt{3}}{(-\frac{4}{4} - \frac{5}{5})}$

$$\sqrt{\quad} \quad \sqrt{\quad} \quad \sqrt{\quad} \quad \sqrt{\quad}$$

$$\sqrt{\quad} \quad \sqrt{\quad}$$

$$(i) \quad \left(-\frac{1}{2} \sqrt{6} - 3 \sqrt{3} + \frac{1}{2} \sqrt[4]{15} - \frac{3}{2} \right)$$

$$(ii) \quad \left(-\frac{1}{2} \sqrt{6} - 3 \sqrt[4]{3} + \frac{1}{2} \sqrt{15} - \frac{3}{2} \right)$$

$$(iii) \quad \left(-\frac{1}{2} \sqrt{6} - 3 \sqrt{3} + \frac{1}{2} \sqrt{15} - \frac{3}{2} \right)$$

$$(iv) \quad \left(-\frac{1}{2} \sqrt{6} - 3 \sqrt{3} + \frac{1}{2} \sqrt{15} - \frac{1}{2} \right)$$

$$(v) \quad \left(-\frac{1}{2} \sqrt{3} - 3 \sqrt{3} + \frac{1}{2} \sqrt{15} - \frac{3}{2} \right)$$

$$6. \text{ Simplify } \frac{(-\sqrt{7})}{(-\sqrt{2} - \sqrt{4})} - \frac{\sqrt{5}}{(\sqrt{6} + \sqrt{3})} + \frac{(-\sqrt{6})}{(\sqrt{4} - \sqrt{7})}$$

$$(i) \quad \left(-\frac{1}{2} \sqrt{14} + \sqrt{7} - \frac{1}{3} \sqrt[4]{30} + \frac{1}{3} \sqrt{15} + \frac{2}{3} \sqrt{6} + \frac{1}{3} \sqrt{42} \right)$$

$$(ii) \quad \left(-\frac{1}{2} \sqrt{14} + \sqrt{7} - \frac{1}{3} \sqrt{30} + \frac{1}{3} \sqrt{15} + \frac{2}{3} \sqrt{6} + \frac{1}{3} \sqrt{42} \right)$$

$$(iii) \quad \left(-\frac{1}{2} \sqrt{14} + \sqrt[4]{7} - \frac{1}{3} \sqrt{30} + \frac{1}{3} \sqrt{15} + \frac{2}{3} \sqrt{6} + \frac{1}{3} \sqrt{42} \right)$$

$$(iv) \quad \left(-\frac{1}{2} \sqrt{14} + \sqrt{7} - \frac{1}{3} \sqrt{30} + \frac{1}{3} \sqrt{18} + \frac{2}{3} \sqrt{6} + \frac{1}{3} \sqrt{42} \right)$$

$$(v) \quad \left(-\frac{1}{2} \sqrt{12} + \sqrt{7} - \frac{1}{3} \sqrt{30} + \frac{1}{3} \sqrt{15} + \frac{2}{3} \sqrt{6} + \frac{1}{3} \sqrt{42} \right)$$

$$7. \text{ Simplify } \frac{\sqrt{3}}{(\sqrt{5} - \sqrt{4})} + \frac{\sqrt{5}}{(-\sqrt{4} - \sqrt{5})} + \frac{(-\sqrt{5})}{(-\sqrt{5} + \sqrt{2})}$$

$$(i) \quad \left(\sqrt{15} + 2 \sqrt{3} + 2 \sqrt{5} - \frac{8}{3} + \frac{1}{3} \sqrt{10} \right)$$

$$(ii) \left(\sqrt{15} + 2\sqrt{3} + 2\sqrt{5} - \frac{10}{3} + \frac{1}{3}\sqrt{10} \right)$$

$$(iii) \left(\sqrt{13} + 2\sqrt{3} + 2\sqrt{5} - \frac{10}{3} + \frac{1}{3}\sqrt{10} \right)$$

$$(iv) \left(\sqrt{15} + 2\sqrt{3} + 2\sqrt{5} - \frac{10}{3} + \frac{1}{3}\sqrt{10} \right)$$

$$(v) \left(\sqrt{15} + 2\sqrt{3} + 2\sqrt{5} - \frac{10}{3} + \frac{1}{3}\sqrt{10} \right)$$

$$8. \text{ Simplify } \frac{(-\sqrt{8})}{(\sqrt{7} + \sqrt{5})} - \frac{(-\sqrt{7})}{(\sqrt{5} - \sqrt{2})} - \frac{(-\sqrt{7})}{(-\sqrt{5} + \sqrt{7})}$$

$$(i) \left(-\frac{2}{3}\sqrt{14} + \sqrt{10} + \frac{5}{6}\sqrt{35} + \frac{7}{2} \right)$$

$$(ii) \left(-\frac{2}{3}\sqrt{14} + \sqrt{10} + \frac{5}{6}\sqrt{35} + \frac{7}{2} \right)$$

$$(iii) \left(-\frac{2}{3}\sqrt{14} + \sqrt{10} + \frac{5}{6}\sqrt{35} + \frac{7}{2} \right)$$

$$(iv) \left(-\frac{2}{3}\sqrt{14} + \sqrt{10} + \frac{5}{6}\sqrt{35} + \frac{9}{2} \right)$$

$$(v) \left(-\frac{2}{3}\sqrt{12} + \sqrt{10} + \frac{5}{6}\sqrt{35} + \frac{7}{2} \right)$$

$$9. \text{ Simplify } \frac{\sqrt{2}}{(-\sqrt{4} + \sqrt{3})} - \frac{(-\sqrt{3})}{(4 + \sqrt{3})} + \frac{(-\sqrt{5})}{(\sqrt{5} + \sqrt{2})}$$

$$(i) \left(-2\sqrt{2} - \sqrt{6} + \frac{4}{13}\sqrt{3} - \frac{74}{39} + \frac{1}{3}\sqrt{10} \right)$$

$$(ii) \left(-2\sqrt{2} - \sqrt{6} + \frac{4}{13}\sqrt{3} - \frac{24}{13} + \frac{1}{3}\sqrt{10} \right)$$

$$(iii) \left(-2\sqrt{\frac{1}{2}} - \sqrt{6} + \frac{4}{13}\sqrt{3} - \frac{74}{39} + \frac{1}{3}\sqrt{10} \right)$$

$$(iv) \left(-2\sqrt{2} - \sqrt{6} + \frac{4}{13}\sqrt{3} - \frac{74}{39} + \frac{1}{3}\sqrt{10} \right)$$

$$(v) \left(-2\sqrt{2} - \sqrt{6} + \frac{4}{13}\sqrt{3} - \frac{74}{39} + \frac{1}{3}\sqrt{10} \right)$$

10. Simplify $\frac{\sqrt{5}}{(\sqrt{9} + \sqrt{8})} - \frac{(-\sqrt{7})}{(\sqrt{8} + \sqrt{6})} - \frac{(-\sqrt{9})}{(\sqrt{3} + \sqrt{4})}$

$$(i) \left(3\sqrt{5} - 2\sqrt{10} + \sqrt{14} - \frac{1}{2}\sqrt{42} - 3\sqrt{3} + 6 \right)$$

$$(ii) \left(3\sqrt{5} - 2\sqrt{10} + \sqrt{14} - \frac{1}{2}\sqrt{42} - 3\sqrt{3} + 6 \right)$$

$$(iii) \left(3\sqrt{5} - 2\sqrt{10} + \sqrt{14} - \frac{1}{2}\sqrt{44} - 3\sqrt{3} + 6 \right)$$

$$(iv) \left(3\sqrt{3} - 2\sqrt{10} + \sqrt{14} - \frac{1}{2}\sqrt{42} - 3\sqrt{3} + 6 \right)$$

$$(v) \left(3\sqrt{5} - 2\sqrt{10} + \sqrt{14} - \frac{1}{2}\sqrt{42} - 3\sqrt{3} + 6 \right)$$

Assignment Key

- 1) (iii)
- 2) (i)
- 3) (ii)
- 4) (iv)
- 5) (iii)
- 6) (ii)
- 7) (ii)
- 8) (i)
- 9) (i)
- 10) (i)