EduSahara™ Assignment

Name : Simplification

Chapter : Real Numbers

Grade : SSC Grade IX

License : Non Commercial Use

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

(i) $(\frac{2}{3}\sqrt{15}-\frac{1}{6}\sqrt{6}-2\sqrt{3}+\frac{1}{2}\sqrt{10})$ (ii) $(\frac{2}{3}\sqrt{15}-\frac{1}{6}\sqrt{6}-2\sqrt{3}+\frac{1}{2}\sqrt{13})$ (iii) $(\frac{2}{3}\sqrt{13}-\frac{1}{6}\sqrt{6}-2\sqrt{3}+\frac{1}{2}\sqrt{10})$

(iv) $(\frac{2}{3}\sqrt{15}-\frac{1}{6}\sqrt{6}-2\sqrt{3}+\frac{1}{2}\sqrt{10})$ (v) $(\frac{2}{3}\sqrt{15}-\frac{1}{6}\sqrt[4]{6}-2\sqrt{3}+\frac{1}{2}\sqrt{10})$

2. Simplify $\frac{\sqrt{8}}{(\sqrt{5}+\sqrt{3})} - \frac{(-\sqrt{6})}{(-\sqrt{3}+\sqrt{8})} + \frac{(-\sqrt{8})}{(-\sqrt{8}+\sqrt{6})}$

(i) $(\sqrt{10}-\sqrt{6}+\frac{1}{5}\sqrt{18}+\frac{14}{5}\sqrt{6}+4)$ (ii) $(\sqrt{10}-\sqrt{6}+\frac{1}{5}\sqrt[4]{18}+\frac{14}{5}\sqrt{3}+4)$ (iii) $(\sqrt{10}-\sqrt[4]{6}+\frac{1}{5}\sqrt{18}+\frac{14}{5}\sqrt{3}+4)$

(iv) $(\sqrt{7}-\sqrt{6}+\frac{1}{5}\sqrt{18}+\frac{14}{5}\sqrt{3}+4)$ (v) $(\sqrt{10}-\sqrt{6}+\frac{1}{5}\sqrt{18}+\frac{14}{5}\sqrt{3}+4)$

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

(i) $(-\frac{1}{2}\sqrt{6}+2\sqrt{3}+\sqrt[4]{5}+\frac{1}{2}\sqrt{15}-\frac{5}{2})$ (ii) $(-\frac{1}{2}\sqrt{3}+2\sqrt{3}+\sqrt{5}+\frac{1}{2}\sqrt{15}-\frac{5}{2})$ (iii) $(-\frac{1}{2}\sqrt{6}+2\sqrt[4]{3}+\sqrt{5}+\frac{1}{2}\sqrt{15}-\frac{5}{2})$

(iv) $(-\frac{1}{2}\sqrt{6}+2\sqrt{3}+\sqrt{5}+\frac{1}{2}\sqrt{15}-\frac{5}{2})$ (v) $(-\frac{1}{2}\sqrt{6}+2\sqrt{3}+\sqrt{5}+\frac{1}{2}\sqrt{17}-\frac{5}{2})$

4. Simplify $\frac{(-\sqrt{2})}{(\sqrt{4}-\sqrt{8})} - \frac{(-\sqrt{5})}{(3-\sqrt{7})} - \frac{(-\sqrt{9})}{(\sqrt{5}-\sqrt{3})}$

(i) $(\frac{1}{2}\sqrt{2}+1+3\sqrt[4]{5}+\frac{1}{2}\sqrt{35}+\frac{3}{2}\sqrt{3})$ (ii) $(\frac{1}{2}\sqrt{\frac{1}{2}}+1+3\sqrt{5}+\frac{1}{2}\sqrt{35}+\frac{3}{2}\sqrt{3})$ (iii) $(\frac{1}{2}\sqrt{2}+1+3\sqrt{5}+\frac{1}{2}\sqrt{38}+\frac{3}{2}\sqrt{3})$

(iv) $(\frac{1}{2}\sqrt{2}+2+3\sqrt{5}+\frac{1}{2}\sqrt{35}+\frac{3}{2}\sqrt{3})$ (v) $(\frac{1}{2}\sqrt{2}+1+3\sqrt{5}+\frac{1}{2}\sqrt{35}+\frac{3}{2}\sqrt{3})$

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

(i) $(\frac{3}{2}\sqrt{6}+2\sqrt{2}+\sqrt{5})$ (ii) $(\frac{3}{2}\sqrt{6}+2\sqrt{2}+\sqrt[4]{5})$ (iii) $(\frac{3}{2}\sqrt{6}+2\sqrt{4}+\sqrt{5})$ (iv) $(\frac{3}{2}\sqrt{6}+2\sqrt{2}+5)$

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

---

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

(i) $(\frac{1}{3}\sqrt{16}-8-2\sqrt{14}-\frac{1}{2}\sqrt{12})$ (ii) $(\frac{1}{3}\sqrt{18}-8-2\sqrt{14}-\frac{1}{2}\sqrt{14})$ (iii) $(\frac{1}{3}\sqrt{18}-8-2\sqrt[4]{14}-\frac{1}{2}\sqrt{12})$

(iv) $(\frac{1}{3}\sqrt{18}-8-2\sqrt{14}-\frac{1}{2}\sqrt{12})$ (v) $(\frac{1}{3}\sqrt{18}-7-2\sqrt{14}-\frac{1}{2}\sqrt{12})$

---

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

(i) $(-2+\sqrt[4]{6}-\frac{1}{2}\sqrt{10}+2\sqrt{5}-\sqrt{3})$ (ii) $(-2+\sqrt{6}-\frac{1}{2}\sqrt{10}+2\sqrt{5}-\sqrt{3})$ (iii) $(-2+\sqrt{6}-\frac{1}{2}\sqrt{10}+2\sqrt{7}-\sqrt{3})$

(iv) $(-5+\sqrt{6}-\frac{1}{2}\sqrt{10}+2\sqrt{5}-\sqrt{3})$ (v) $(-2+\sqrt{6}-\frac{1}{2}\sqrt[4]{10}+2\sqrt{5}-\sqrt{3})$

---

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

(i) $(\frac{5}{6}\sqrt{35}+\frac{1}{3}\sqrt{14}-\frac{5}{2}-\sqrt{6}-2\sqrt{2})$ (ii) $(\frac{5}{6}\sqrt{35}+\frac{1}{3}\sqrt{14}-\frac{9}{4}-\sqrt{6}-2\sqrt{2})$ (iii) $(\frac{5}{6}\sqrt{35}+\frac{1}{3}\sqrt{14}-\frac{5}{2}-\sqrt{8}-2\sqrt{2})$

(iv) $(\frac{5}{6}\sqrt{33}+\frac{1}{3}\sqrt{14}-\frac{5}{2}-\sqrt{6}-2\sqrt{2})$ (v) $(\frac{5}{6}\sqrt{35}+\frac{1}{3}\sqrt[4]{14}-\frac{5}{2}-\sqrt{6}-2\sqrt{2})$

---

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

(i) $(\frac{1}{2}\sqrt{10}+\frac{1}{2}\sqrt[4]{6}+\sqrt{2}+1-2\sqrt{3})$ (ii) $(\frac{1}{2}\sqrt{10}+\frac{1}{2}\sqrt{6}+\sqrt{2}+1-2\sqrt{3})$ (iii) $(\frac{1}{2}\sqrt{10}+\frac{1}{2}\sqrt{6}+\sqrt[4]{2}+1-2\sqrt{3})$

(iv) $(\frac{1}{2}\sqrt{10}+\frac{1}{2}\sqrt{6}+\sqrt{2}+3-2\sqrt{3})$ (v) $(\frac{1}{2}\sqrt{7}+\frac{1}{2}\sqrt{6}+\sqrt{2}+1-2\sqrt{3})$

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

(i) $(-\frac{1}{4}\sqrt{35}-\frac{1}{4}\sqrt{15}-4\sqrt{6}+\sqrt{30}+3\sqrt{3})$ (ii) $(-\frac{1}{4}\sqrt{33}-\frac{1}{4}\sqrt{15}-4\sqrt{6}+\sqrt{30}+3\sqrt{3})$

(iii) $(-\frac{1}{4}\sqrt{35}-\frac{1}{4}\sqrt[4]{15}-4\sqrt{6}+\sqrt{30}+3\sqrt{3})$ (iv) $(-\frac{1}{4}\sqrt{35}-\frac{1}{4}\sqrt{15}-4\sqrt{6}+\sqrt{30}+3\sqrt{3})$

(v) $(-\frac{1}{4}\sqrt{35}-\frac{1}{4}\sqrt{15}-4\sqrt{6}+\sqrt{32}+3\sqrt{3})$

Assignment Key

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

Copyright © Small Systems Computing Pvt. Ltd.