EduSahara™ Assignment

Name : Rationalizing Factor

Chapter : Real Numbers

Grade : SSC Grade IX

1. The rationalising factor of $(-6\sqrt{68}) =$

   (i) 17 (ii) $\sqrt[4]{17}$ (iii) $\sqrt{14}$ (iv) $\sqrt{17}$ (v) $\sqrt{20}$

2. Rationalise the denominator of $\frac{1}{4\sqrt{6}}$

   (i) $\frac{1}{24}\sqrt{8}$ (ii) $\frac{1}{4}$ (iii) $\frac{1}{24}\sqrt[4]{6}$ (iv) $\frac{1}{24}\sqrt{4}$ (v) $\frac{1}{24}\sqrt{6}$

3. Rationalise the denominator of $\frac{1}{(3+\sqrt{7})}$

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

4. Rationalise the denominator of $\frac{1}{(-3\sqrt{7}-7\sqrt{4})}$

   (i) $(\frac{3}{133}\sqrt{7}-\frac{2}{21})$ (ii) $(\frac{3}{133}\sqrt{7}-\frac{2}{17})$ (iii) $(\frac{3}{133}\sqrt{10}-\frac{2}{19})$ (iv) $(\frac{3}{133}\sqrt{4}-\frac{2}{19})$ (v) $(\frac{3}{133}\sqrt{7}-\frac{2}{19})$

5. Rationalise the denominator of $\frac{1}{(-\sqrt{3}-\sqrt{4}-\sqrt{5})}$

   (i) $(-\frac{3}{22}\sqrt{3}-\frac{2}{11}-\frac{1}{22}\sqrt{5}+\frac{1}{11}\sqrt{15})$ (ii) $(-\frac{3}{22}\sqrt{3}-\frac{2}{11}-\frac{1}{22}\sqrt[4]{5}+\frac{1}{11}\sqrt{15})$

   (iii) $(-\frac{3}{22}\sqrt{3}-\frac{2}{11}-\frac{1}{22}\sqrt{5}+\frac{1}{11}\sqrt{15})$ (iv) $(-\frac{3}{22}\sqrt{3}-\frac{2}{13}-\frac{1}{22}\sqrt{5}+\frac{1}{11}\sqrt{15})$

   (v) $(-\frac{3}{22}\sqrt{3}-\frac{2}{11}-\frac{1}{22}\sqrt{5}+\frac{1}{11}\sqrt{18})$

6. Rationalise the denominator of $\frac{1}{(-2\sqrt{4}-5\sqrt{3}-3\sqrt{2})}$

(i) $(\frac{306}{529}-\frac{205}{529}\sqrt{3}+\frac{219}{529}\sqrt{2}-\frac{120}{529}\sqrt{6})$ (ii) $(\frac{308}{529}-\frac{205}{529}\sqrt{3}+\frac{219}{529}\sqrt{2}-\frac{120}{529}\sqrt{6})$

(iii) $(\frac{308}{529}-\frac{205}{529}\sqrt{3}+\frac{219}{529}\sqrt{2}-\frac{120}{529}\sqrt{8})$ (iv) $(\frac{308}{529}-\frac{205}{529}\sqrt{3}+\frac{219}{529}\sqrt[4]{2}-\frac{120}{529}\sqrt{6})$

(v) $(\frac{308}{529}-\frac{205}{529}\sqrt[4]{3}+\frac{219}{529}\sqrt{2}-\frac{120}{529}\sqrt{6})$

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7. Rationalise the denominator of $\frac{1}{(\sqrt[3]{2}-\sqrt[3]{4})}$

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

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8. Rationalise the denominator of $\frac{(-\sqrt{2}+\sqrt{5})}{(-\sqrt{8}+\sqrt{4})}$ =

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

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

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9. Rationalise the denominator of $\frac{(2\sqrt{6}+2\sqrt{4})}{(-2\sqrt{2}+5\sqrt{9})}$ =

(i) $(\frac{4}{217}\sqrt{12}+\frac{8}{217}\sqrt{2}+\frac{30}{217}\sqrt{6}+\frac{2}{7})$ (ii) $(\frac{4}{217}\sqrt{12}+\frac{8}{217}\sqrt{2}+\frac{30}{217}\sqrt[4]{6}+\frac{60}{217})$

(iii) $(\frac{4}{217}\sqrt{12}+\frac{8}{217}\sqrt{2}+\frac{30}{217}\sqrt{6}+\frac{60}{217})$ (iv) $(\frac{4}{217}\sqrt{10}+\frac{8}{217}\sqrt{2}+\frac{30}{217}\sqrt{6}+\frac{60}{217})$

(v) $(\frac{4}{217}\sqrt{12}+\frac{8}{217}\sqrt[4]{2}+\frac{30}{217}\sqrt{6}+\frac{60}{217})$

Assignment Key

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