



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

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

2. Rationalise the denominator of  $\frac{1}{(-\sqrt{8}-\sqrt{7})}$

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

3. Rationalise the denominator of  $\frac{1}{(2\sqrt{9}+5\sqrt{6})}$

- (i)  $(-\frac{1}{19}+\frac{5}{114}\sqrt{6})$  (ii)  $(-\frac{1}{19}+\frac{5}{114}\sqrt[4]{6})$  (iii)  $(-\frac{3}{19}+\frac{5}{114}\sqrt{6})$  (iv)  $(-\frac{1}{19}+\frac{5}{19})$  (v)  $(\frac{1}{19}+\frac{5}{114}\sqrt{6})$

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

- (i)  $(-\frac{7}{31}\sqrt{-1}+\frac{1}{31}\sqrt{5}-\frac{6}{31}-\frac{4}{31}\sqrt{10})$  (ii)  $(-\frac{7}{31}\sqrt{2}+\frac{1}{31}\sqrt{5}-\frac{2}{11}-\frac{4}{31}\sqrt{10})$   
 (iii)  $(-\frac{7}{31}\sqrt{2}+\frac{1}{31}\sqrt[4]{5}-\frac{6}{31}-\frac{4}{31}\sqrt{10})$  (iv)  $(-\frac{7}{31}\sqrt{2}+\frac{1}{31}\sqrt{5}-\frac{6}{31}-\frac{4}{31}\sqrt{10})$   
 (v)  $(-\frac{7}{31}\sqrt{2}+\frac{1}{31}\sqrt{5}-\frac{6}{31}-\frac{4}{31}\sqrt{13})$

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

- (i)  $(-\frac{31}{317}\sqrt{5}+\frac{5}{317}\sqrt{2}+\frac{28}{951}\sqrt{3}+\frac{40}{951}\sqrt{32})$  (ii)  $(-\frac{31}{317}\sqrt{5}+\frac{5}{317}\sqrt{2}+\frac{28}{951}\sqrt{3}+\frac{40}{951}\sqrt{30})$   
 (iii)  $(-\frac{31}{317}\sqrt{5}+\frac{5}{317}\sqrt[4]{2}+\frac{28}{951}\sqrt{3}+\frac{40}{951}\sqrt{30})$  (iv)  $(-\frac{31}{317}\sqrt{5}+\frac{5}{317}\sqrt{2}+\frac{28}{951}\sqrt[4]{3}+\frac{40}{951}\sqrt{30})$   
 (v)  $(-\frac{31}{317}\sqrt{2}+\frac{5}{317}\sqrt{2}+\frac{28}{951}\sqrt{3}+\frac{40}{951}\sqrt{30})$

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

- (i)  $(\sqrt{9}+\sqrt{3}+\sqrt{4})$  (ii)  $(\sqrt{9}+\sqrt{6}+4)$  (iii)  $(\sqrt{9}+\sqrt{6}+\sqrt{4})$  (iv)  $(\sqrt{9}+\sqrt{9}+\sqrt{4})$  (v)  $(\sqrt{9}+\sqrt{6}+\sqrt{4})$

7.  $9\sqrt{4} \div (-\sqrt{9}) =$

- (i)  $(-7)$  (ii)  $(-5)$  (iii)  $(-8)$  (iv)  $(-6)$  (v)  $(-3)$

8. The rationalising factor of  $(-4\sqrt{70}) =$

- (i)  $\sqrt{68}$  (ii)  $\sqrt{73}$  (iii)  $70$  (iv)  $\sqrt[4]{70}$  (v)  $\sqrt{70}$

9. The rationalising factor of  $(2\sqrt{7}+4\sqrt{6}) =$

- (i)  $(2\sqrt{7}-24)$  (ii)  $(2\sqrt{7}-4\sqrt[4]{6})$  (iii)  $(2\sqrt{5}-4\sqrt{6})$  (iv)  $(2\sqrt{7}-4\sqrt{6})$  (v)  $(2\sqrt{9}-4\sqrt{6})$

10. Rationalise the denominator of  $\frac{(-\sqrt{3}+\sqrt{9})}{(\sqrt{2}-\sqrt{5})} =$

- (i)  $(\frac{1}{3}\sqrt{6}-\sqrt{2}+\frac{1}{3}\sqrt{15}-\sqrt{5})$  (ii)  $(\frac{1}{3}\sqrt{6}-\sqrt{2}+\frac{1}{3}\sqrt{15}-\sqrt{5})$  (iii)  $(\frac{1}{3}\sqrt{6}-\sqrt{2}+\frac{1}{3}\sqrt{15}-\sqrt{5})$   
 (iv)  $(\frac{1}{3}\sqrt{3}-\sqrt{2}+\frac{1}{3}\sqrt{15}-\sqrt{5})$  (v)  $(\frac{1}{3}\sqrt{6}-\sqrt{2}+\frac{1}{3}\sqrt{15}-\sqrt{7})$

11. Rationalise the denominator of  $\frac{(-4\sqrt{3}+4\sqrt{6})}{(5\sqrt{6}-\sqrt{3})} =$

- (i)  $(-\frac{16}{49}\sqrt{2}+\frac{12}{17})$  (ii)  $(-\frac{16}{49}\sqrt{4}+\frac{36}{49})$  (iii)  $(-\frac{16}{49}\sqrt{2}+\frac{36}{47})$  (iv)  $(-\frac{16}{49}\sqrt{-1}+\frac{36}{49})$  (v)  $(-\frac{16}{49}\sqrt{2}+\frac{36}{49})$

## Assignment Key

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1) (iv)	2) (v)	3) (i)	4) (iv)	5) (ii)	6) (v)
7) (iv)	8) (v)	9) (iv)	10) (ii)	11) (v)	