EduSahara™ Assignment

Name : Concepts

Chapter : Real Numbers

Grade : SSC Grade IX

1. Which of the following is a second order surd?

   (i) $2\sqrt[5]{5}$ (ii) $(-2\sqrt[4]{2})$ (iii) $9\sqrt{2}$ (iv) $\sqrt[9]{2}$ (v) $5\sqrt[3]{6}$

2. Which of the following is a cubic surd?

   (i) $(-\sqrt{8})$ (ii) $9\sqrt[3]{4}$ (iii) $\sqrt[7]{8}$ (iv) $2\sqrt[4]{2}$ (v) $3\sqrt[5]{8}$

3. Which of the following is a biquadratic surd?

   (i) $4\sqrt[5]{6}$ (ii) $9\sqrt[3]{9}$ (iii) $8\sqrt{3}$ (iv) $4\sqrt[4]{9}$ (v) $(-\sqrt[6]{4})$

4. Which of the following is a fifth order surd?

   (i) $4\sqrt[4]{2}$ (ii) $(-\sqrt[8]{2})$ (iii) $(-\sqrt[5]{7})$ (iv) $5\sqrt[3]{8}$ (v) $9\sqrt{4}$

5. The order of the surd $\frac{8}{9}\sqrt[6]{73}$ is

   (i) $\sqrt[6]{73}$ (ii) $\frac{1}{6}$ (iii) 73 (iv) $\frac{8}{9}$ (v) 6

6. The radicand of the surd $\frac{2}{11}\sqrt[6]{64}$ is

   (i) 64 (ii) $\sqrt[6]{64}$ (iii) $\frac{1}{6}$ (iv) 6 (v) $\frac{2}{11}$

7. The rational factor of the surd $\frac{1}{7}\sqrt[17]{30}$ is

   (i) $\frac{1}{17}$ (ii) $\frac{1}{7}$ (iii) $\sqrt[17]{30}$ (iv) 17 (v) 30

8. The irrational factor of the surd $\frac{1}{4}\sqrt[6]{37}$ is

   (i) $\sqrt[6]{37}$ (ii) 6 (iii) $\frac{1}{4}$ (iv) 37 (v) $\frac{1}{6}$

9. Which of the following is a mixed surd?

   (i) (-4) (ii) $(5\sqrt{5}-5\sqrt{6})$ (iii) $(9\sqrt{7}+7\sqrt{2}+5\sqrt{6})$ (iv) $(8-12\sqrt{2})$ (v) $\sqrt{28}$

10. Which of the following is a pure surd?

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

11. Which of the following is a compound surd?

(i) $(-\sqrt{6})$ (ii) 8 (iii) $\sqrt{567}$ (iv) $(4-2\sqrt{5})$ (v) $(-5\sqrt{8}+4\sqrt{4}-5\sqrt{3})$

12. Which of the following is a binomial surd?

(i) $\sqrt{24}$ (ii) $(5-6\sqrt{2})$ (iii) $(7\sqrt{6}+6\sqrt{4}+4\sqrt{5})$ (iv) $(5\sqrt{4}+9\sqrt{3})$ (v) (-1)

13. The rationalising factor of $(-9\sqrt{23}) =$

(i) $\sqrt{23}$ (ii) $\sqrt[4]{23}$ (iii) 23 (iv) $\sqrt{26}$ (v) $\sqrt{20}$

14. The rationalising factor of $(-8\sqrt{2}-2\sqrt{5}) =$

(i) $(-8\sqrt{\frac{1}{2}}+2\sqrt{5})$ (ii) $(-8\sqrt{2}+10)$ (iii) $(-8\sqrt{5}+2\sqrt{5})$ (iv) $(-8\sqrt{2}+2\sqrt[4]{5})$ (v) $(-8\sqrt{2}+2\sqrt{5})$

15. The pure surd form of $\frac{7}{8}\sqrt{\frac{2}{9}} =$

(i) $\frac{49}{288}$ (ii) $\sqrt{\frac{17}{96}}$ (iii) $\sqrt{\frac{47}{288}}$ (iv) $\sqrt[4]{\frac{49}{288}}$ (v) $\sqrt{\frac{49}{288}}$

16. The pure surd form of $\frac{5}{8}\sqrt[3]{\frac{5}{2}} =$

(i) $\sqrt[3]{\frac{627}{1024}}$ (ii) $\sqrt[3]{\frac{623}{1024}}$ (iii) $\sqrt[5]{\frac{625}{1024}}$ (iv) $\sqrt[3]{\frac{625}{1024}}$ (v) $\frac{625}{1024}$

17. The mixed surd form of $\sqrt{\frac{7}{4}} =$

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

18. The conjugate of $(1+13\sqrt{5}) =$

(i) $(1-13\sqrt[4]{5})$ (ii) $(-1-13\sqrt{5})$ (iii) $(3-13\sqrt{5})$ (iv) $(1-13\sqrt{5})$ (v) $(1-65)$

19. The conjugate of $(14\sqrt{7}-6\sqrt{6}) =$

(i) $(14\sqrt{7}+36)$ (ii) $(14\sqrt{10}+6\sqrt{6})$ (iii) $(14\sqrt{7}+6\sqrt{6})$ (iv) $(14\sqrt{7}+6\sqrt[4]{6})$ (v) $(14\sqrt{4}+6\sqrt{6})$

20. $\sqrt[2]{\sqrt[3]{2}} =$

(i) $\sqrt[6]{\frac{1}{2}}$ (ii) $\sqrt[6]{4}$ (iii) $\sqrt[6]{\sqrt{5}}$ (iv) $\sqrt[6]{2}$

21. $\sqrt[3]{4^{19}}$ =

(i) $2^{\left(\frac{19}{3}\right)}$ (ii) $6^{\left(\frac{19}{3}\right)}$ (iii) 4^{19} (iv) $4^{\left(\frac{19}{3}\right)}$ (v) $4^{\left(\frac{3}{19}\right)}$

22. $\sqrt[23]{7}$ =

(i) $9^{\left(\frac{1}{23}\right)}$ (ii) 7^{23} (iii) $5^{\left(\frac{1}{23}\right)}$ (iv) $7^{\left(\frac{1}{21}\right)}$ (v) $7^{\left(\frac{1}{23}\right)}$

23. $7^{\left(\frac{1}{6}\right)}$ =

(i) $\sqrt[6]{9}$ (ii) $\sqrt[1]{6^7}$ (iii) $\sqrt[4]{7}$ (iv) $\sqrt[6]{7}$ (v) $\sqrt[6]{4}$

24. Which of the following lists represent similar surds?

(i) $5\sqrt[5]{3}, 3\sqrt[5]{3}, 4\sqrt[5]{3}, 5\sqrt[5]{3}, 7\sqrt[5]{3}$ (ii) $\sqrt[7]{35}, \sqrt[5]{8}, \sqrt[6]{20}, \sqrt[9]{32}, \sqrt{31}$ (iii) $5\sqrt[5]{3}, 3\sqrt[5]{3}, 4\sqrt[5]{3}, 5\sqrt[5]{3}, 7\sqrt[7]{3}$

(iv) $7\sqrt[5]{5}, 3\sqrt[5]{3}, 4\sqrt[5]{3}, 5\sqrt[5]{3}, 5\sqrt[5]{3}$ (v) $\sqrt{31}, \sqrt[6]{20}, \sqrt[9]{32}, \sqrt[7]{35}, \sqrt[5]{8}$

25. Which of the following lists represent dissimilar surds?

(i) $4\sqrt[6]{23}, 11\sqrt[6]{23}, 12\sqrt[6]{23}, 20\sqrt[6]{23}, 16\sqrt[6]{23}$ (ii) $4\sqrt{23}, 11\sqrt{23}, 12\sqrt{23}, 20\sqrt{23}, 16\sqrt{23}$

(iii) $5\sqrt[4]{25}, 12\sqrt[4]{25}, 13\sqrt[4]{25}, 21\sqrt[4]{25}, 17\sqrt[4]{25}$ (iv) $3\sqrt[4]{20}, 10\sqrt[4]{20}, 11\sqrt[4]{20}, 19\sqrt[4]{20}, 15\sqrt[4]{20}$

(v) $\sqrt[10]{35}, \sqrt[4]{8}, \sqrt[9]{31}, \sqrt[5]{9}, \sqrt[7]{22}$

26. Which of the following lists represent similar surds?

(i) $\sqrt[9]{17}, \sqrt[4]{27}, \sqrt{5}, \sqrt[3]{22}, \sqrt[4]{3}$ (ii) $4\sqrt[8]{27}, 3\sqrt[8]{27}, 4\sqrt[10]{27}, 8\sqrt[8]{27}, 4\sqrt[8]{27}$ (iii) $4\sqrt[8]{27}, 4\sqrt[8]{29}, 4\sqrt[8]{27}, 3\sqrt[8]{27}, 8\sqrt[8]{27}$

(iv) $\sqrt[9]{17}, \sqrt[4]{27}, \sqrt[3]{22}, \sqrt[4]{3}, \sqrt{5}$ (v) $4\sqrt[8]{27}, 3\sqrt[8]{27}, 4\sqrt[8]{27}, 8\sqrt[8]{27}, 4\sqrt[8]{27}$

27. Which of the following lists represent dissimilar surds?

(i) $18\sqrt[4]{11}, 16\sqrt[4]{11}, 3\sqrt[4]{11}, 8\sqrt[4]{11}, 15\sqrt[4]{11}$ (ii) $19\sqrt[6]{13}, 17\sqrt[6]{13}, 4\sqrt[6]{13}, 9\sqrt[6]{13}, 16\sqrt[6]{13}$

(iii) $17\sqrt[6]{9}, 15\sqrt[6]{9}, 2\sqrt[6]{9}, 7\sqrt[6]{9}, 14\sqrt[6]{9}$ (iv) $18\sqrt[8]{11}, 16\sqrt[8]{11}, 3\sqrt[8]{11}, 8\sqrt[8]{11}, 15\sqrt[8]{11}$ (v) $\sqrt[10]{18}, \sqrt[8]{11}, \sqrt[7]{24}, \sqrt[8]{26}, \sqrt[10]{12}$

Assignment Key

1) (iii)	2) (ii)	3) (iv)	4) (iii)	5) (v)	6) (i)
7) (ii)	8) (i)	9) (iv)	10) (iii)	11) (v)	12) (iv)
13) (i)	14) (v)	15) (v)	16) (iv)	17) (ii)	18) (iv)
19) (iii)	20) (iv)	21) (iv)	22) (v)	23) (iv)	24) (i)
25) (v)	26) (v)	27) (v)			