EduSahara™ Learning Center Assignment

Grade : Class IX, ICSE
Chapter : Rational and Irrational Numbers
Name : Surd Miscellaneous

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

(i) $(-\sqrt[8]{8})$ (ii) $9\sqrt[3]{7}$ (iii) $(-6\sqrt[4]{3})$ (iv) $\sqrt[5]{8}$ (v) $9\sqrt{3}$

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2. Which of the following is a cubic surd?

(i) $6\sqrt{9}$ (ii) $(-8\sqrt[3]{5})$ (iii) $(-\sqrt[6]{8})$ (iv) $5\sqrt[4]{7}$ (v) $(-\sqrt[5]{4})$

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3. Which of the following is a biquadratic surd?

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

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

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

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5. The order of the surd $\frac{7}{10}\sqrt[22]{67}$ is

(i) $\frac{1}{22}$ (ii) $\sqrt[22]{67}$ (iii) $\frac{7}{10}$ (iv) 22 (v) 67

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6. The rationalising factor of $2\sqrt{90}$ =

(i) $\sqrt[4]{10}$ (ii) $\sqrt{13}$ (iii) $\sqrt{10}$ (iv) $\sqrt{8}$ (v) 10

If $\sqrt{2} = 1.4142$, $\sqrt{3} = 1.7321$, $\sqrt{5} = 2.2361$, $\sqrt{7} = 2.6458$,

7. the value of $\frac{(-2\sqrt{10})}{(-3\sqrt{7})}$ =

(i) 2.797 (ii) 0.797 (iii) 1.797 (iv) 8.797 (v) 7.797

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8. $\sqrt[7]{6} \times \sqrt[7]{6} =$

(i) $\sqrt[5]{6^2}$ (ii) $\sqrt[9]{6^2}$ (iii) $\sqrt[7]{3^2}$ (iv) $\sqrt[7]{8^2}$ (v) $\sqrt[7]{6^2}$

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9. $\sqrt{5} \times 3\sqrt{10} =$

(i) $\sqrt{448}$ (ii) $\sqrt[4]{450}$ (iii) $\sqrt{450}$ (iv) $\sqrt{452}$ (v) 450

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10. $\dfrac{\sqrt[9]{5}}{\sqrt[9]{2}} =$

(i) $\sqrt[9]{\frac{5}{2}}$ (ii) $\sqrt[9]{\frac{7}{2}}$ (iii) $\sqrt[7]{\frac{5}{2}}$ (iv) $\sqrt[9]{\frac{3}{2}}$ (v) $\sqrt[11]{\frac{5}{2}}$

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11. $\dfrac{6\sqrt[3]{4}}{3\sqrt[3]{8}} =$

(i) $\sqrt[5]{4}$ (ii) 1 (iii) 4 (iv) $\sqrt[3]{6}$ (v) $\sqrt[3]{4}$

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12. $\dfrac{\sqrt[3]{10}}{\sqrt[3]{16}} =$

(i) $\sqrt[3]{\frac{5}{8}}$ (ii) $\sqrt[3]{\frac{7}{8}}$ (iii) $\frac{5}{8}$ (iv) $\sqrt[3]{\frac{3}{8}}$ (v) $\sqrt[5]{\frac{5}{8}}$

13. $\frac{4\sqrt[3]{10}}{\sqrt[3]{20}}$ =

(i) 32 (ii) $\sqrt[3]{32}$ (iii) $\sqrt[3]{30}$ (iv) $\sqrt[5]{32}$ (v) $\sqrt[3]{34}$

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

(i) $\sqrt[3]{2^2}$ (ii) $\sqrt[9]{-1}$ (iii) $\sqrt[9]{4}$ (iv) $\sqrt[3]{1}$ (v) $\sqrt[9]{2}$

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15. $\sqrt[3]{2^2}$ =

(i) $4^{(\frac{2}{3})}$ (ii) $2^{(\frac{2}{3})}$ (iii) $2^{(\frac{3}{2})}$ (iv) 0 (v) 2^2

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16. $\sqrt[13]{5}$ =

(i) $5^{(\frac{1}{13})}$ (ii) $5^{(\frac{1}{11})}$ (iii) $8^{(\frac{1}{13})}$ (iv) $2^{(\frac{1}{13})}$ (v) 5^{13}

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17. $10^{(\frac{1}{3})}$ =

(i) 10 (ii) $\sqrt[3]{10}$ (iii) $\sqrt[3]{12}$ (iv) $\sqrt[3]{7}$ (v) $\sqrt[1]{3^{10}}$

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18. Which of the following is an irrational number?

$\sqrt{4}$

(i) 19 (ii) $\overline{16}$ (iii) 8.1111 (iv) 2 (v) $\sqrt{\overline{92}}$

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19. Which of the following is a rational number?

(i) $\sqrt{43}$ (ii) $\sqrt{96}$ (iii) $\frac{5}{7}$ (iv) $\sqrt[3]{32}$ (v) $\sqrt{56}$

Assignment Key

1) (v)
2) (ii)
3) (iv)
4) (iv)
5) (iv)
6) (iii)
7) (ii)
8) (v)
9) (iii)
10) (i)
11) (v)
12) (i)
13) (ii)
14) (v)
15) (ii)
16) (i)
17) (ii)
18) (v)
19) (iii)