EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Real Numbers

Grade : SSC Grade IX

1. Expand the following base power $(-5)^{-3}$

   (i) $(\frac{-1}{8})$ (ii) $\frac{1}{625}$ (iii) $(\frac{-1}{125})$ (iv) $(\frac{-1}{343})$ (v) $\frac{1}{25}$

2. Which of the following is a compound surd?

   (i) $(8\sqrt{6}-4\sqrt{5}-5\sqrt{9})$ (ii) $\sqrt{150}$ (iii) (-1) (iv) $(3+5\sqrt{7})$ (v) $(-5\sqrt{6})$

3. Express $\frac{55}{27}$ as a decimal correct to 2 decimal places

   (i) 20.37 (ii) 2.14 (iii) 0.2 (iv) 2.04 (v) 1.84

4. Which of the following is a binomial surd?

   (i) $(5-6\sqrt{6})$ (ii) $(3\sqrt{6}+9\sqrt{5})$ (iii) $\sqrt{45}$ (iv) (-5) (v) $(7\sqrt{9}+9\sqrt{3}+7\sqrt{2})$

5. Expand the following base power 5^{-4}

   (i) $\frac{1}{3125}$ (ii) $\frac{1}{2401}$ (iii) $\frac{1}{625}$ (iv) $\frac{1}{16}$ (v) $\frac{1}{125}$

6. Simplify $\frac{5^3\times2^{-2}}{2^2\times(-3)^{-2}}$

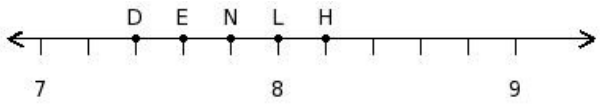
   (i) $\frac{3^2\times5^3}{2^4}$ (ii) $\frac{3^2\times5^3}{4^4}$ (iii) $\frac{3^2\times5^3}{(-1)^4}$ (iv) $\frac{3^2\times5^4}{2^4}$ (v) $\frac{3\times5^3}{2^4}$

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

7. the value of $\frac{(6\sqrt{9}-7\sqrt{2})}{(8\sqrt{7}-2\sqrt{3})}$ =

   (i) 1.458 (ii) 8.458 (iii) 7.458 (iv) 0.458 (v) 2.458

8. Find the position of the rational number $\frac{39}{5}$ on the number line



   (i) D (ii) L (iii) E (iv) H (v) N

9. Simplify $\frac{4^2\times(-4)^2\times(-2)^2\times4^2}{(-2)^{-2}\times(-3)^2\times3^2\times2^{-2}}$

(i) $\left(\frac{512}{9}\right)^2$ (ii) $\frac{512}{9}$ (iii) $\left(\frac{514}{9}\right)^2$ (iv) $\left(\frac{512}{9}\right)^3$ (v) $\left(\frac{170}{3}\right)^2$

10. If $\sqrt{361}=19$, find the value of $\sqrt{36100}$

(i) 188 (ii) 190 (iii) 19 (iv) 1900 (v) 192

11. Express $\frac{239}{1000}$ as a decimal correct to 3 decimal places

(i) 0.339 (ii) 0.039 (iii) 0.024 (iv) 0.239 (v) 2.39

12. Find the periodicity of the recurring decimal $24.2\overline{7}$

(i) 0 (ii) 1 (iii) 7 (iv) -1 (v) 2

13. $(3\sqrt{4}+4\sqrt{5}+6\sqrt{3})+(4\sqrt{3}+6\sqrt{6}+6\sqrt{5})=$

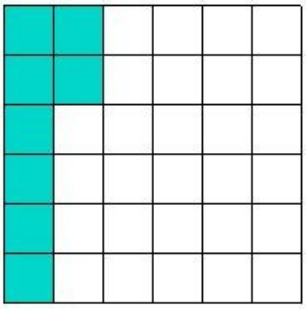
(i) $(3\sqrt{4}+10\sqrt{5}+10\sqrt{3}+6\sqrt{6})$ (ii) $(3\sqrt{4}+10\sqrt{5}+10\sqrt{3}+6\sqrt{9})$ (iii) $(3+10\sqrt{5}+10\sqrt{3}+6\sqrt{6})$

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

14. Simplify the expression $_{(-5)}\left(\frac{6}{5}\right)\times{}_{(-5)}\left(\frac{9}{2}\right)$

(i) $_{(-5)}\left(\frac{57}{10}\right)$ (ii) $_{(-5)}\left(\frac{47}{8}\right)$ (iii) $_{(-5)}\left(\frac{67}{12}\right)$ (iv) $_{(-7)}\left(\frac{57}{10}\right)$ (v) $_{(-3)}\left(\frac{57}{10}\right)$

15. What fraction of the figure is shaded?



(i) $\frac{4}{19}$ (ii) $\frac{5}{18}$ (iii) $\frac{1}{6}$ (iv) $\frac{2}{9}$ (v) $\frac{4}{17}$

16. Which of the following is a pure surd?

(i) $(\sqrt{4}-\sqrt{7})$ (ii) $\sqrt{8}$ (iii) $(3-\sqrt{2}+\sqrt{5})$ (iv) 1 (v) $(1+2\sqrt{2})$

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

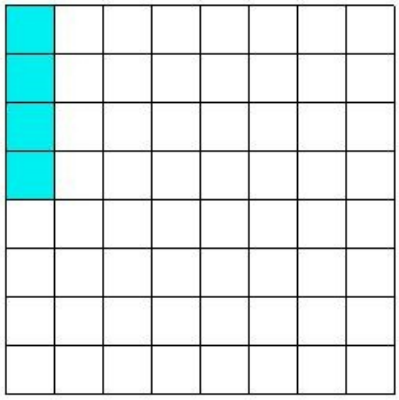
17. the value of $\frac{(-9\sqrt{2})}{2\sqrt{4}} =$

(i) -3.182 (ii) 4.818 (iii) 7.818 (iv) 3.818

18. The conjugate of $(13+16\sqrt{2}) =$

(i) $(15-16\sqrt{2})$ (ii) $(10-16\sqrt{2})$ (iii) $(13-16\sqrt{2})$ (iv) $(13-32)$ (v) $(13-16\sqrt[4]{2})$

19. What fraction of the figure is shaded?



(i) $\frac{2}{31}$ (ii) $\frac{1}{32}$ (iii) $\frac{1}{16}$ (iv) $\frac{3}{32}$ (v) $\frac{2}{33}$

20. Which of the following lists represent dissimilar surds?

(i) $17\sqrt[3]{16}, 12\sqrt[3]{16}, 7\sqrt[3]{16}, 5\sqrt[3]{16}, 6\sqrt[3]{16}$ (ii) $18\sqrt[5]{19}, 13\sqrt[5]{19}, 8\sqrt[5]{19}, 6\sqrt[5]{19}, 7\sqrt[5]{19}$

(iii) $17\sqrt[7]{16}, 12\sqrt[7]{16}, 7\sqrt[7]{16}, 5\sqrt[7]{16}, 6\sqrt[7]{16}$ (iv) $16\sqrt[5]{13}, 11\sqrt[5]{13}, 6\sqrt[5]{13}, 4\sqrt[5]{13}, 5\sqrt[5]{13}$

(v) $\sqrt[10]{36}, \sqrt{20}, \sqrt[7]{35}, \sqrt[9]{36}, \sqrt[3]{11}$

21. 15.49 =

(i) $\frac{1549}{1000}$ (ii) $\frac{1549}{10}$ (iii) 1549 (iv) $\frac{1549}{10000}$ (v) $\frac{1549}{100}$

22. Simplify the expression $5^8 \times \left(\frac{4}{3}\right)^8$

(i) $\left(\frac{20}{3}\right)^9$ (ii) $\left(\frac{22}{3}\right)^8$ (iii) $\left(\frac{20}{3}\right)^8$ (iv) $\left(\frac{20}{3}\right)^7$ (v) 6^8

23. Rationalise the denominator of $\frac{(-\sqrt{5}-\sqrt{4})}{(-\sqrt{7}+\sqrt{4})}$ =

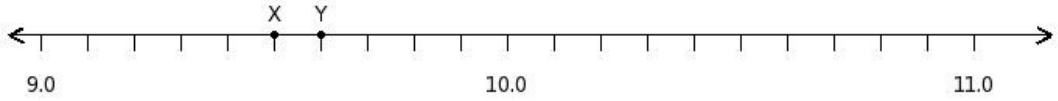
(i) $(\frac{1}{3}\sqrt{35}+\frac{2}{3}\sqrt{7}+\frac{2}{3}\sqrt{5}+2)$ (ii) $(\frac{1}{3}\sqrt{35}+\frac{2}{3}\sqrt{7}+\frac{2}{3}\sqrt{5}+\frac{4}{3})$ (iii) $(\frac{1}{3}\sqrt{35}+\frac{2}{3}\sqrt{7}+\frac{2}{3}\frac{4}{}\sqrt{5}+\frac{4}{3})$

(iv) $(\frac{1}{3}\sqrt{32}+\frac{2}{3}\sqrt{7}+\frac{2}{3}\sqrt{5}+\frac{4}{3})$ (v) $(\frac{1}{3}\sqrt{35}+\frac{2}{3}\frac{4}{}\sqrt{7}+\frac{2}{3}\sqrt{5}+\frac{4}{3})$

24. Convert the fraction $\frac{77}{18}$ to non-terminating recurring decimal

(i) $427.\overline{7}$ (ii) $42.\overline{7}$ (iii) $4.2\overline{7}$ (iv) $0.42\overline{7}$ (v) $0.042\overline{7}$

25. Find the difference of the decimal numbers at the points labelled with letters X and Y



(i) 0.3 (ii) 0.6 (iii) 0.7 (iv) 0.1 (v) -0.1

Assignment Key

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