EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Real Numbers

Grade : SSC Grade IX

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1. Find the periodicity of the recurring decimal $0.\overline{3}$

   (i) 0 (ii) 3 (iii) 1 (iv) -1 (v) 2

2. $(14-9\sqrt[3]{4}+2\sqrt[3]{2})-(6\sqrt[3]{9}-9\sqrt[3]{4}-6\sqrt[3]{7})=$

   (i) $(14+2\sqrt[3]{2}-6\sqrt[5]{9}+6\sqrt[3]{7})$ (ii) $(11+2\sqrt[3]{2}-6\sqrt[3]{9}+6\sqrt[3]{7})$ (iii) $(14+2\sqrt[5]{2}-6\sqrt[3]{9}+6\sqrt[3]{7})$

   (iv) $(14+2\sqrt[3]{2}-6\sqrt[3]{9}+6\sqrt[3]{9})$ (v) $(14+2\sqrt[3]{2}-6\sqrt[3]{9}+6\sqrt[3]{7})$

3. Express $\frac{655}{9326}$ as a decimal correct to 4 decimal places

   (i) 0.2702 (ii) 0.1702 (iii) -0.0298 (iv) -0.1298 (v) 0.0702

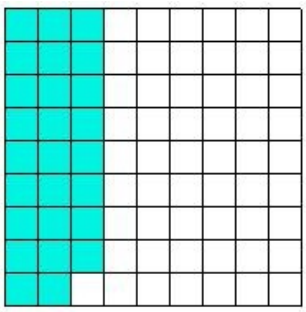
4. Express $\frac{3}{8}$ as a decimal correct to 2 decimal places

   (i) 0.04 (ii) 0.17 (iii) 0.38 (iv) 3.75 (v) 0.47

5. $\left[\left(\frac{8}{7}\right)^{(4/3)}\right]^{-5} =$

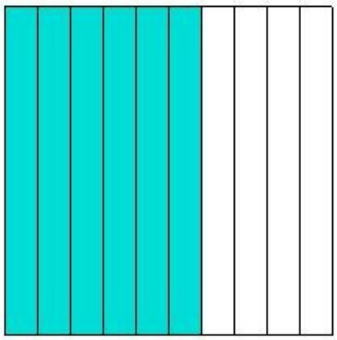
   (i) $\left(\frac{10}{7}\right)^{(-20/3)}$ (ii) $\left(\frac{6}{7}\right)^{(-20/3)}$ (iii) $\left(\frac{8}{7}\right)^{(-32/5)}$ (iv) $\left(\frac{8}{7}\right)^{(-20/3)}$ (v) $\left(\frac{8}{7}\right)^{-8}$

6. What fraction of the figure is shaded?



   (i) $\frac{28}{81}$ (ii) $\frac{26}{81}$ (iii) $\frac{26}{83}$ (iv) $\frac{8}{27}$ (v) $\frac{26}{79}$

7. What is the decimal number represented by the shaded region?



(i) 0.4 (ii) 0.7 (iii) 0.5 (iv) 0.6 (v) 0.8

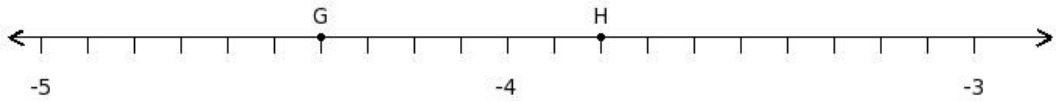
8. Express $\frac{73}{100}$ as a decimal correct to 3 decimal places

(i) 0.83 (ii) 0.63 (iii) 0.73 (iv) 0.53 (v) 0.93

9. Expand the following base power $(-3)^3$

(i) -1 (ii) 81 (iii) -125 (iv) 9 (v) -27

10. Find the product of the rational numbers at the points labelled with letters G and H



(i) $\frac{416}{25}$ (ii) $\frac{418}{25}$ (iii) $\frac{50}{3}$ (iv) $\frac{84}{5}$ (v) $\frac{386}{23}$

11. $(-6\sqrt{6}) + 7\sqrt{6} =$

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

12. $[6^{-5}]^{-3/2} =$

(i) $6^{\left(\frac{15}{2}\right)}$ (ii) $9^{\left(\frac{15}{2}\right)}$ (iii) $6^{\left(\frac{29}{4}\right)}$ (iv) 6^8 (v) $4^{\left(\frac{15}{2}\right)}$

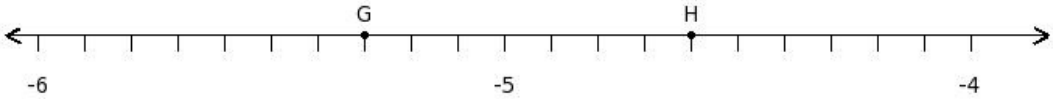
13. Simplify the expression $7^{\left(\frac{9}{4}\right)} \times 7^{\left(\frac{9}{4}\right)}$

(i) $52^{\left(\frac{9}{4}\right)}$ (ii) $49^{\left(\frac{9}{2}\right)}$ (iii) $49^{\left(\frac{9}{4}\right)}$ (iv) $47^{\left(\frac{9}{4}\right)}$ (v) $49^{\left(\frac{3}{2}\right)}$

14. Find the value of $(-64)^{\left(\frac{4}{3}\right)}$

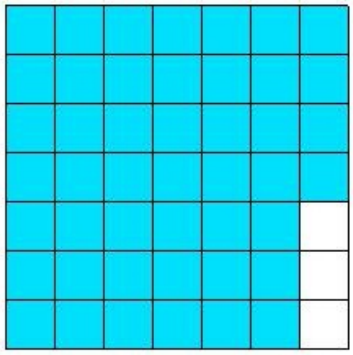
(i) 258 (ii) 254 (iii) 255 (iv) 257 (v) 256

15. Find the difference of the rational numbers at the points labelled with letters G and H



(i) $(\frac{-1}{2})$ (ii) $(\frac{-7}{12})$ (iii) $(\frac{-7}{10})$ (iv) $(\frac{-9}{10})$ (v) $(\frac{-7}{8})$

16. What fraction of the figure is shaded?



(i) $\frac{46}{51}$ (ii) $\frac{44}{49}$ (iii) $\frac{48}{49}$ (iv) $\frac{46}{49}$ (v) $\frac{46}{47}$

17. Which of the following lists represent similar surds?

(i) $7\sqrt[5]{18}, 9\sqrt[5]{18}, 8\sqrt[5]{18}, 4\sqrt[5]{18}, 6\sqrt[5]{21}$ (ii) $4\sqrt[5]{18}, 9\sqrt[5]{18}, 7\sqrt[5]{18}, 8\sqrt[5]{18}, 6\sqrt[5]{18}$ (iii) $\sqrt[4]{24}, \sqrt{27}, \sqrt[4]{18}, \sqrt[3]{30}, \sqrt[5]{15}$

(iv) $\sqrt[4]{18}, \sqrt[4]{24}, \sqrt{27}, \sqrt[3]{30}, \sqrt[5]{15}$ (v) $4\sqrt[5]{18}, 9\sqrt[5]{18}, 7\sqrt[5]{18}, 8\sqrt[5]{18}, 6\sqrt[7]{18}$

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

(i) $(-7\sqrt[3]{6})$ (ii) $(-9\sqrt[5]{6})$ (iii) $8\sqrt[4]{8}$ (iv) $\sqrt{2}$ (v) $\sqrt[6]{3}$

19. Which of the following fractions converts to a non-terminating recurring decimal?

(i) $\frac{95}{9}$ (ii) $\frac{2197}{160}$ (iii) $\frac{81}{4}$ (iv) $\frac{2592}{256}$ (v) $\frac{89}{8}$

20. Express $\frac{76}{87}$ as a decimal correct to 4 decimal places

(i) 0.6736 (ii) 0.9736 (iii) 1.0736 (iv) 0.7736 (v) 0.8736

21. Convert the fraction $\frac{227}{18}$ to non-terminating recurring decimal

(i) $126.\overline{1}$ (ii) $0.\overline{1}$ (iii) $12.6\overline{1}$ (iv) $1.26\overline{1}$ (v) $1261.\overline{1}$

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

the value of $(24\sqrt{70} + 2\sqrt{360}) =$

(i) 240.746 (ii) 239.746 (iii) 236.746 (iv) 237.746 (v) 238.746

23. If $\sqrt{10000} = 100$, find the value of 1

(i) 0.1 (ii) 3 (iii) 1 (iv) 9 (v) 10

24. Which of the following is true?

(i) $\sqrt{8} > \sqrt{4}$ (ii) $\sqrt{6} > \sqrt{9}$ (iii) $\sqrt{9} < \sqrt{7}$ (iv) $\sqrt{3} > \sqrt{4}$ (v) $\sqrt{6} < \sqrt{2}$

25. Simplify the expression $(-8)^{\left(\frac{5}{4}\right)} \times (-8)^{\left(\frac{9}{2}\right)} \times (-8)^{\left(\frac{9}{8}\right)}$

(i) $(-8)^{\left(\frac{55}{8}\right)}$ (ii) $(-10)^{\left(\frac{55}{8}\right)}$ (iii) $(-5)^{\left(\frac{55}{8}\right)}$ (iv) $(-8)^{\left(\frac{67}{10}\right)}$ (v) $(-8)^{\left(\frac{43}{6}\right)}$

Assignment Key

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

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