EduSahara™ Worksheet

Name : Chapter Based Worksheet

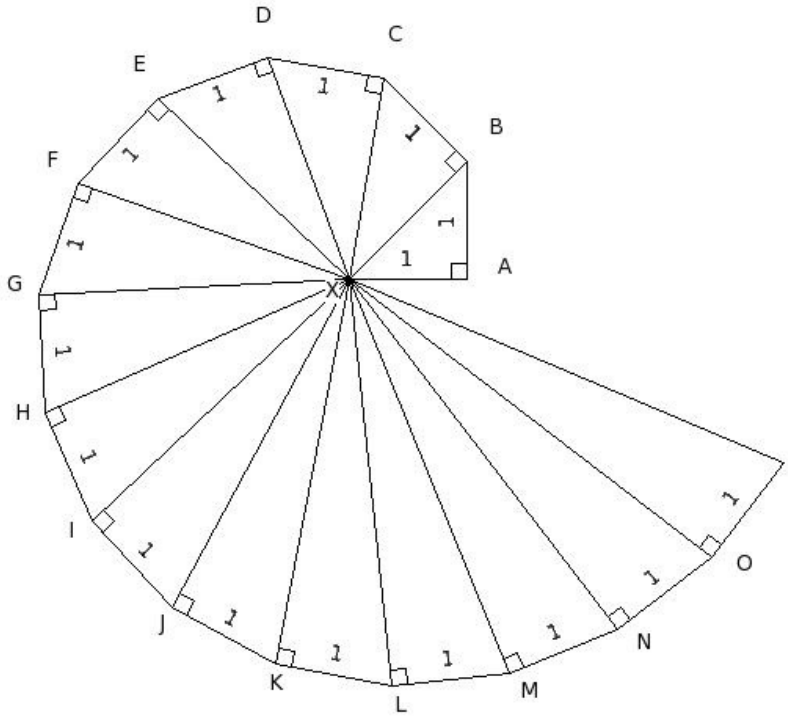
Chapter : Real Numbers

Grade : SSC Grade IX

1. The decimal number 1.571 lies between

   (i) {1,2} (ii) {-1,0} (iii) {3,4} (iv) {2,3} (v) {0,1}

2. Find the length of side XF



   (i) $\sqrt{16}$ (ii) $\sqrt{13}$ (iii) $\sqrt{14}$ (iv) $\sqrt{18}$ (v) $\sqrt{6}$

3. The rationalising factor of $5\sqrt{40}$ =

   (i) $\sqrt{7}$ (ii) $\sqrt{10}$ (iii) 10 (iv) $\sqrt[4]{10}$ (v) $\sqrt{12}$

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

   the value of $(2\sqrt{6} - 5\sqrt{5})$ =

   (i) 0.719 (ii) -6.281 (iii) 4.719 (iv) 1.719

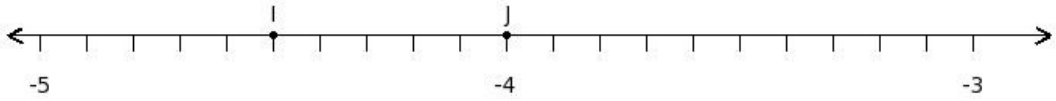
5. Simplify $\dfrac{5^{-3} \times (-3)^3 \times 2^2}{(-3)^2 \times (-4)^{-3} \times 3^{-2}}$

   (i) $\dfrac{2^8 \times 3^3}{5^3}$ (ii) $\dfrac{2^8 \times 3^2}{5^3}$ (iii) $\dfrac{2^8 \times 3^4}{5^3}$ (iv) $\dfrac{2^8 \times 3^3}{2^3}$ (v) $\dfrac{2^8 \times 3^3}{7^3}$

6. Which of the following decimal numbers lie between 6999 and 7000?

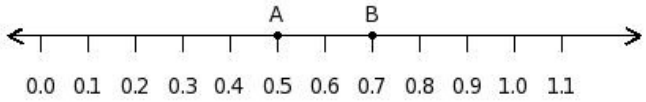
(i) 69993 (ii) 7000.8 (iii) 6999.3 (iv) 699.9 (v) 6998.2

7. Find the difference of the rational numbers at the points labelled with letters I and J



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

8. Find the difference between the decimal values at point A and B



(i) -0.1000 (ii) -0.2000 (iii) -0.0000 (iv) -0.3000 (v) -0.4000

9. $2\sqrt{4} \times 3\sqrt{3} =$

(i) $\sqrt{429}$ (ii) 432 (iii) $\sqrt{434}$ (iv) $\sqrt[4]{432}$ (v) $\sqrt{432}$

10. Simplify the expression $(\frac{9}{2})^{(5/2)} \times (\frac{9}{2})^{(7/2)} \times (\frac{9}{2})^{(8/3)}$

(i) $(\frac{9}{2})^{10}$ (ii) $(\frac{9}{2})^{(42/5)}$ (iii) $(\frac{11}{2})^{(26/3)}$ (iv) $(\frac{9}{2})^{(26/3)}$ (v) $(\frac{7}{2})^{(26/3)}$

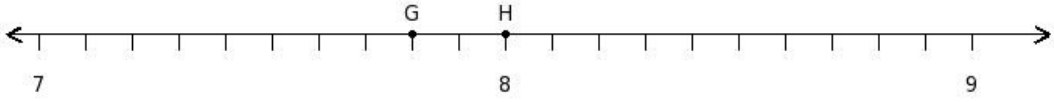
11. Which of the following is a cubic surd?

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

12. The decimal number 0.68 lies between

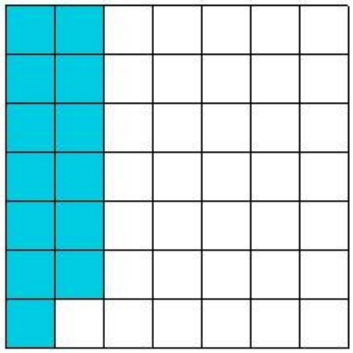
(i) {0.66,0.67} (ii) {0.69,0.70} (iii) {0.78,0.88} (iv) {0.58,0.78} (v) {0.48,0.58}

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



(i) $(\frac{-1}{3})$ (ii) $(\frac{-1}{5})$ (iii) $\frac{1}{5}$ (iv) $(\frac{-1}{7})$ (v) $(\frac{-3}{5})$

14. What fraction of the figure is shaded?

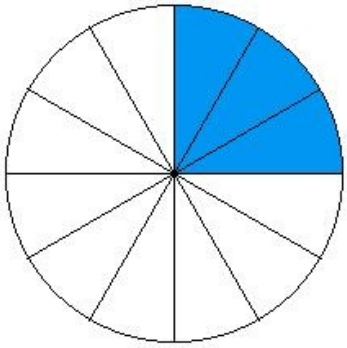


(i) $\frac{13}{49}$ (ii) $\frac{13}{47}$ (iii) $\frac{11}{49}$ (iv) $\frac{15}{49}$ (v) $\frac{13}{51}$

15. Express $\frac{8}{7}$ as a decimal correct to 2 decimal places

(i) 11.43 (ii) 1.14 (iii) 1.24 (iv) 0.94 (v) 0.11

16. What fraction of the figure is shaded?

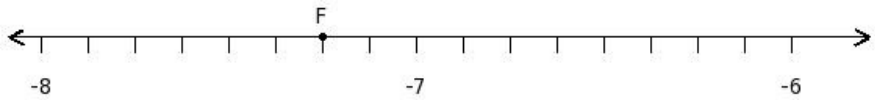


(i) $\frac{1}{12}$ (ii) $\frac{3}{14}$ (iii) $\frac{5}{12}$ (iv) $\frac{3}{10}$ (v) $\frac{1}{4}$

17. $7\sqrt{9} \div (-5\sqrt{9}) =$

(i) (-1) (ii) $(-\frac{9}{7})$ (iii) $(-\frac{7}{5})$ (iv) $(-\frac{5}{3})$ (v) $(-\frac{9}{5})$

18. Find the rational number at the point labelled with letter F



(i) $(\frac{-29}{6})$ (ii) $(\frac{-27}{4})$ (iii) $(\frac{-31}{4})$ (iv) $(\frac{-29}{4})$ (v) $(\frac{-29}{2})$

19. Which of the following is an irrational number?

(i) 4 (ii) $\frac{1}{2}$ (iii) $\sqrt[3]{68}$ (iv) 9.8889 (v) 2

20. Simplify the expression $\left(\frac{-4}{7}\right)^{(9/2)} \times \left(\frac{-4}{7}\right)^{6}$

(i) $\left(\frac{-4}{7}\right)^{11}$ (ii) $\left(\frac{-2}{7}\right)^{(21/2)}$ (iii) $\left(\frac{-6}{7}\right)^{(21/2)}$ (iv) $\left(\frac{-4}{7}\right)^{(41/4)}$ (v) $\left(\frac{-4}{7}\right)^{(21/2)}$

21. Simplify $\frac{(-\sqrt{3})}{(\sqrt{5}+\sqrt{7})} - \frac{(-\sqrt{2})}{(-\sqrt{3}-\sqrt{8})} - \frac{(-\sqrt{7})}{(-\sqrt{2}+\sqrt{6})}$

(i) $(\frac{1}{2}\sqrt{13}-\frac{1}{2}\sqrt{21}+\frac{1}{5}\sqrt{6}-\frac{4}{5}+\frac{1}{4}\sqrt{14}+\frac{1}{4}\sqrt{42})$ (ii) $(\frac{1}{2}\sqrt{15}-\frac{1}{2}\sqrt{21}+\frac{1}{5}\sqrt[4]{6}-\frac{4}{5}+\frac{1}{4}\sqrt{14}+\frac{1}{4}\sqrt{42})$

(iii) $(\frac{1}{2}\sqrt{15}-\frac{1}{2}\sqrt{21}+\frac{1}{5}\sqrt{6}-\frac{4}{5}+\frac{1}{4}\sqrt{14}+\frac{1}{4}\sqrt{42})$ (iv) $(\frac{1}{2}\sqrt{15}-\frac{1}{2}\sqrt{21}+\frac{1}{5}\sqrt{6}-\frac{2}{5}+\frac{1}{4}\sqrt{14}+\frac{1}{4}\sqrt{42})$

(v) $(\frac{1}{2}\sqrt{15}-\frac{1}{2}\sqrt[4]{21}+\frac{1}{5}\sqrt{6}-\frac{4}{5}+\frac{1}{4}\sqrt{14}+\frac{1}{4}\sqrt{42})$

22. The conjugate of $(-19\sqrt{5}+8\sqrt{7}) =$

(i) $(-19\sqrt{2}-8\sqrt{7})$ (ii) $(-19\sqrt{7}-8\sqrt{7})$ (iii) $(-19\sqrt{5}-56)$ (iv) $(-19\sqrt{5}-8\sqrt[4]{7})$ (v) $(-19\sqrt{5}-8\sqrt{7})$

23. Simplify the expression $(-4)^{-5} \times (-4)^{-6}$

(i) $(-1)^{-11}$ (ii) $(-4)^{-10}$ (iii) $(-4)^{-12}$ (iv) $(-4)^{-11}$ (v) $(-6)^{-11}$

24. $(-9\sqrt{6}+3\sqrt[3]{3}+5\sqrt{2})+(-4\sqrt{4}+4\sqrt[3]{6}+2\sqrt[3]{3}) =$

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

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

(v) $(-9\sqrt{6}+5\sqrt[5]{3}+5\sqrt{2}-4\sqrt{4}+4\sqrt[3]{6})$

25. $\sqrt[6]{9} =$

(i) $9^{\left(\frac{1}{6}\right)}$ (ii) $9^{\left(\frac{1}{4}\right)}$ (iii) $12^{\left(\frac{1}{6}\right)}$ (iv) $7^{\left(\frac{1}{6}\right)}$ (v) 9^{6}

Assignment Key

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