



STANDARD 7TH: CHAPTER 6

Indices

Q.1 Select all correct options

- What is the solution of $\sqrt{18} + \sqrt{50} - \sqrt{98}$
 - $\sqrt{2}$
 - $\frac{4}{\sqrt{8}}$
 - $\sqrt{8}$
 - 4
- Find k if $k(x + y)^2 + x^2 + y^2$ is perfect square for all values of x and y.
 - 2
 - $-81/162$
 - $\frac{1}{2}$
 - $-\frac{1}{2}$
- Which of the following is greatest?
 - $\sqrt{2}$
 - $\sqrt[3]{2}$
 - $\sqrt[4]{2}$
 - $\sqrt[5]{2}$
- $\sqrt{5 + \sqrt[3]{x}} = 3$
 - $\sqrt[3]{64}$
 - 64
 - $\sqrt{4096}$
 - $\sqrt[3]{262144}$
- Simplify $\sqrt{2} \times \sqrt[3]{3} \times \sqrt[4]{4}$
 - $14\sqrt{3}$
 - $2\sqrt[3]{3}$
 - 1
 - $\sqrt[3]{24}$

6. Arrange $\sqrt[3]{6}$, $\sqrt[4]{9}$ and $\sqrt[3]{2}$ in ascending order

- a) $\sqrt[3]{6}$, $\sqrt[4]{9}$, $\sqrt[3]{2}$
- b) $\sqrt[3]{2}$, $\sqrt[4]{9}$, $\sqrt[3]{6}$
- c) $\sqrt[4]{9}$, $\sqrt[3]{6}$, $\sqrt[3]{2}$
- d) $\sqrt[3]{6}$, $\sqrt[3]{2}$, $\sqrt[4]{9}$

7. Write $2x^{-\frac{1}{4}}$ using a positive index

- a) $2x^{\frac{1}{4}}$
- b) $\frac{2}{x^4}$
- c) $\frac{2}{x^4} \times \frac{1}{x^{-\frac{1}{4}}}$
- d) $\frac{4}{2x^{\frac{16}{4}}}$

8. Solve: $\sqrt{\frac{0.81 \times 0.484}{0.0064 \times 6.25}}$

- a) 0.9
- b) 9
- c) 0.99
- d) 99

9. Simplify: $[(6^{-1} - 8^{-1})^{-1} + (2^{-1} - 3^{-1})^{-1}]^{-1}$

- a) 30
- b) $\frac{5}{24}$
- c) $\frac{1}{30}$
- d) $\sqrt{\frac{1}{900}}$

10. Find the value of k if $(\sqrt{2})^5 \div (\sqrt{2})^{-4} = 2^{k+\frac{1}{2}}$

- a) $\frac{1}{4}$
- b) -4
- c) $\frac{-1}{4}$
- d) 4

Q.2 Solve the following

1. Solve: $100^{\frac{5}{2}} \div 100^{-\frac{1}{2}}$.
2. Simplify: $\frac{\sqrt{0.64} + \sqrt{1.69}}{\sqrt{3.24} - \sqrt{2.25}}$
3. If x and y are positive integers such that $x + y = 1$ then what can be the maximum value of $x^4y + y^4x$
4. What is the smallest number by which 20577 should be divided so that the quotient will be perfect square? Find cube root of the quotient.
5. Evaluate: $\sqrt[3]{-16} \times \sqrt[3]{363} \times \sqrt[3]{\frac{1}{2662}} \times \sqrt[3]{99}$
6. Two numbers are in the ratio 5:6. The sum of their cube is 21824. Find the numbers.
7. Express 0.0006542 in standard form.
8. Express the number of seconds of 5 years in the standard form.
9. Find the value of $\frac{x}{y}$ if $x = 4.9 \times 10^{-5}$ & $y = 7 \times 10^{-8}$
10. By what number should $\left(\frac{1}{2}\right)^{-1}$ should be multiplied so that the product is $\left(\frac{-5}{4}\right)^{-1}$.