

DPP – 1

Express the following avoiding fractional or negative indices :

1. $a^{\frac{5}{7}}$

2. $x^{\frac{-3}{2}}$

3. $\frac{3}{x^{\frac{-4}{5}}}$

4. $x^{\frac{-2}{5}} \times 3a^{\frac{-1}{2}}$

5. $8m^{-2} \times m^{\frac{-2}{3}}$

6. $x^{\frac{-4}{5}} \div 3a^{\frac{-5}{4}}$

7. $x^{\frac{-2}{5}} \div 2x^{\frac{-1}{2}}$

8. $\sqrt[5]{x} \div \sqrt[5]{x^{-a}}$

9. ${}^{2m}\sqrt{a^{-5}} \times {}^m\sqrt{a^8}$

10. ${}^{4a}\sqrt{x^6} \div {}^{2a}\sqrt{x^{-5}}$

Express the following avoiding radical signs and negative indices :

11. $(\sqrt[3]{x})^7$

12. $(\sqrt[4]{a})^{-6}$

13. $\frac{1}{\sqrt[3]{x^{-2}}}$

14. $\frac{1}{(\sqrt[5]{a})^{-2}}$

15. $\sqrt[3]{x^4} \div (\sqrt[6]{x})^{-1}$

16. $\sqrt[4]{a^{-3}} \div (\sqrt[8]{a})^{-1}$

17. $4^{\frac{-3}{2}}$

18. $8^{\frac{2}{3}}$

19. $9^{\frac{3}{2}}$

20. $16^{\frac{5}{4}}$

21. $81^{\frac{-3}{4}}$

22. $\frac{1}{6^{-2}}$

23. $(125)^{\frac{-2}{3}}$

24. $\left(\frac{1}{27}\right)^{\frac{-4}{3}}$

25. $\left(\frac{1}{216}\right)^{\frac{-2}{3}}$

26. Simplify $\frac{x^{m+2n}x^{3m-8n}}{x^{5m-6n}}$

ANSWER KEY

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1. $\sqrt[7]{a^5}$
2. $\frac{1}{\sqrt{x^3}}$
3. $3 \cdot \sqrt[5]{x^4}$
4. $\frac{3}{\sqrt{a} \cdot \sqrt[5]{x^2}}$
5. $\frac{8}{\sqrt[3]{m^8}}$
6. $\frac{1}{3} \cdot \frac{\sqrt[4]{a^5}}{\sqrt[5]{x^4}}$
7. $\frac{1}{2} \cdot \frac{1}{\sqrt[10]{x}}$
8. $\sqrt[5]{x^{a+1}}$
9. $\sqrt[2m]{a^{11}}$
10. $\sqrt[a]{x^4}$
11. $x^{\frac{7}{3}}$
12. $\frac{1}{a^{\frac{3}{2}}}$
13. $x^{\frac{2}{3}}$
14. $a^{\frac{2}{5}}$
15. $x^{\frac{3}{2}}$
16. $\frac{1}{a^{\frac{5}{8}}}$
17. $\frac{1}{8}$
18. 4
19. 27
20. 32
21. $\frac{1}{27}$
22. 36
23. $\frac{1}{25}$
24. 81
25. 36
26. $\frac{1}{x^m}$