1. Calculate: $\frac{(2^3 \cdot 4^2)}{8^4}$

2. Simplify: $\frac{(25^3)^{-\frac{2}{6}}}{5^{\frac{7}{2}}}$

3. Simplify: $(x^3 \cdot y^2)^4$

4. If $x = 2^3$, simplify: $\frac{}{(2x^2)^{-\frac{1}{2}}}$

5. Simplify: $\frac{(y^4 \cdot y^3 \cdot y^2)}{(y^6 \cdot y^5)}$

6. Express as a power of 2: $\frac{((2^5)^{-\frac{3}{2}} \cdot (4^3)^{-\frac{1}{2}})}{((8^2)^{-3} \cdot (16^4)^{\frac{1}{2}})}$

7. Simplify: $\frac{(8^2)^{\frac{3}{4}}}{2^{\frac{3}{2}}}$

8. Simplify: $\frac{(81^{-\frac{5}{4}})}{9^{\frac{3}{2}}}$

9. Simplify: $(2^3)^{-\frac{1}{2}}$

10. Simplify: $\frac{(x^3)^{-\frac{2}{5}}}{x^{-\frac{6}{5}}}$

11. Express as a power of 2: $(2^5 \cdot 4^3)^{-\frac{1}{2}}$

12. Simplify: $\frac{(x^3 \cdot y^2)^4}{(x^6 \cdot y^8)^2}$

13. Simplify: $\frac{(x^4 \cdot y^3)^2}{x^6 \cdot y^2}$

14. If $x = 3$, simplify: $(2x^4)^{-\frac{1}{2}}$

15. Express as a power of 2: $\frac{(2^3 \cdot 8^2)^{-\frac{1}{2}}}{(4^3)^{-\frac{1}{2}}}$

16. Simplify: $\frac{(x^5 \cdot y^4)^{-\frac{1}{2}}}{x^2 \cdot y^2}$

17. Simplify: $(2^3)^{-\frac{1}{2}} \cdot (4^2)^{-\frac{1}{4}}$

18. Express as a power of 3: $\frac{(3^4 \cdot 9^2)^{-\frac{1}{2}}}{(27^3)^{-\frac{1}{2}}}$

19. Simplify: $\frac{(x^3 \cdot y^2)^2}{x^4 \cdot y^4}$

20. If $x = 2$, simplify: $(3x^3)^{-\frac{1}{3}}$