

Simplify. Leave your answer in simplest form.

1. $\left(\frac{2t^2}{t-1}\right)^{-1}$

7. $5x^3\sqrt{32x^8}$

2. $\frac{3^{-2}x^2y^{-4}}{3^3x^{-2}y}$

8. $81^{-1/4}$

3. ~~$(a+b^2)^{-1}$~~ $a^{-1} + b^{-2}$

9. $(\sqrt[5]{x^3} - 1)(\sqrt[5]{x^3} + 1)$

4. $\left(\frac{1}{x^{-2}}\right)(y^2 + x^{-1} + 5x^{-2})$

10. $\sqrt[3]{64x^5y^{10}z^{21}}$

5. $32^{-\frac{3}{5}}$

11. $(\sqrt[4]{a^3})(\sqrt[4]{a^3})$

6. $\left(\frac{8}{125}\right)^{\frac{2}{3}}$

12. $\sqrt[4]{243x^9y}$