

HW38

properties of exp.

$$1. 7^{-3} = \frac{1}{7^3} = \frac{1}{343}$$

$$2. -4^4 = -256$$

$$3. (-4)^4 = 256$$

$$4. -5^{-4} = -\frac{1}{5^4} = -\frac{1}{625}$$

$$5. \left(\frac{3}{2}\right)^3 = \frac{3^3}{2^3} = \frac{27}{8}$$

$$6. \left(\frac{7}{5}\right)^0 = 1$$

$$7. \left(\frac{3}{5}\right)^1 = \frac{3}{5}$$

$$8. \left(\frac{2}{3}\right)^5 = \frac{2^5}{3^5} = \frac{32}{243}$$

$$9. a^{-7} = \frac{1}{a^7}$$

$$10. a^{18}$$

$$11. (3a^2)(4a^6) = 12a^8$$

$$12. 54a^2$$

$$13. 12a^3b^3c^4$$

$$14. 24x^4y^3$$

$$15. -56m^5n^7$$

$$16. (y^8)(x^{15}y^{10}) = x^{15}y^{18}$$

$$17. a^5$$

$$18. a^7$$

$$19. \frac{18}{a^9}$$

$$20. \frac{a^{11}}{8}$$

$$21. \frac{729b^8a^4}{36b^4a^{10}}$$

$$\frac{81b^4}{4a^6}$$

explain: $\left(\frac{9b^2a^2}{2a^3}\right)^2$

$$22. \frac{243x^{10}}{32y^{15}}$$

explain: $\left(\frac{3x^2y^3}{2y^3}\right)^5 = \frac{3^5x^{10}}{2^5y^{15}}$

$$23. \frac{81x^4}{129x^2y^8}$$

$$\frac{x^2}{9y^8}$$

explain: $\left(\frac{-3x^2y^2}{9y^4}\right)^2 = \frac{9x^2}{81y^8} = \frac{x^2}{9y^8}$

$$24. \frac{2x^2y^{11}}{3}$$