

Day 02 Operations with Polynomials Practice #2

Name Master E
Date _____ Block _____

1-10: Simplify each expression. Circle your final answer.

If in doubt, factor it out!

$$1. \frac{\cancel{2}x^2}{3y} \cdot \frac{x}{\cancel{2}y^2}$$

$$\frac{x^3}{3y^3}$$

$$2. \left(\frac{3r^3}{-x^2} \right)^2$$

$$\frac{9r^6}{x^4}$$

$$3. \frac{2x^5}{y^3} \left(\frac{y^2}{2x^3} \right)^{-3}$$

$$\frac{2x^5}{y^3} \left(\frac{2x^3}{y^2} \right)^3$$

$$\frac{2x^5}{y^3} \cdot \frac{8x^9}{y^6} = \frac{16x^{14}}{y^9}$$

$$4. \frac{(ab^3z^{-2})^3}{(ab^{-2}z^3)^2}$$

$$\frac{a^3b^9z^{-6}}{a^2b^{-4}z^6}$$

$$\frac{a^3b^9b^4}{a^2z^6z^6} = \frac{ab^{13}}{z^{12}}$$

$$5. \left(\frac{a}{b^2} \right)^{-1} \left(\frac{a^2}{b} \right)^{-2}$$

$$\frac{b^2}{a} \cdot \left(\frac{b}{a^2} \right)^2$$

$$\frac{b^2}{a} \cdot \frac{b^2}{a^4} = \frac{b^4}{a^5}$$

$$6. \frac{(pq^{-2})^{-1}}{(p^2q)^{-2}} = \frac{(p^2q)^2}{(pq^{-2})^1}$$

$$\frac{p^4q^2}{pq^{-2}} = \frac{p^4q^2q^2}{p}$$

$$= p^3q^4$$

$$7. \left(\frac{x^{-2}}{y^{-3}} \right)^{-2} \left(\frac{x^{-3}}{y^{-2}} \right)^2$$

$$\frac{x^4}{y^6} \cdot \frac{x^{-6}}{y^{-4}} = \frac{x^4 \cdot y^4}{y^6 \cdot x^6} = \frac{1}{y^2x^2} = \frac{1}{x^2y^2}$$

$$8. \left(\frac{2x^3y}{3wb} \right)^2 \left(\frac{w^2b^2}{x^5y^2} \right)^3$$

$$\frac{4x^6y^2}{9w^2b^2} \cdot \frac{w^6b^6}{x^{15}y^6} = \frac{4b^4w^4}{9x^9y^4}$$

$$9. \frac{7c^{-2}t^{-4}r^0}{3^{-2}d^{-3}}$$

$$\frac{7 \cdot 3^2 d^3}{c^2 t^4} = \frac{7 \cdot 9 d^3}{c^2 t^4} =$$

$$\frac{63d^3}{c^2 t^4}$$

$$10. \left(\frac{x^{-1}m^{-4}}{x^{-2}m} \right)^2 \left(\frac{x^2m^{-1}}{x^4m^2} \right)^3$$

$$\frac{x^{-2}m^{-8}}{x^{-4}m^2} \cdot \frac{x^6m^{-3}}{x^{12}m^6}$$

$$\frac{x^4}{x^2m^8m^2} \cdot \frac{x^6}{x^{12}m^3m^6} = \frac{x^{10}}{x^{14}m^9}$$

$$\frac{1}{x^4m^9}$$