

Chapter 8 PRACTICE Test

ALL ANSWERS MUST INCLUDE ONLY POSITIVE EXPONENTS!

Date _____

Period _____

1) $-a^3 b^5 \cdot -a^2$
 $(-1)(-1)a^{3+2} b^5$
 $a^5 b^5$

2) $7p^{-4} \cdot 5p^4 r^{-3}$
 $7 \cdot 5 p^{-4+4} r^{-3}$
 $35 p^0 r^{-3} = 35 r^{-3} = \frac{35}{r^3}$

Remember: $p^0 = 1$

3) $\frac{4pr^3}{4prq^2}$
 $\frac{1 p^0 r^{3-1}}{Q^2} = \frac{-R^2}{Q^2}$

4) $(-2a^0 b^3)^4 \cdot (-2b)^2$
 $(-2)^4 a^0 b^{12} \cdot (-2)^2 b^2 =$
 $16 \cdot 4 a^0 b^{2+12} = 64 b^{14}$

5) $(2x^{-1} z^{-2})^2 \cdot 2zy^{-1}$
 $2^2 x^{-2} z^{-4} \cdot 2 y^{-1} z$ ← add exponents
 $4 \cdot 2 x^{-2} y^{-1} z^{-3}$ ← Change Neg → pos exponents
 $\frac{8}{x^2 y z^3}$

6) $(2x^{-1} z^{-4})^4 \cdot yzx^3$
 $2^4 x^{-4} z^{-16} \cdot x^3 y z$
 $16 x^{-4+3} y z^{1-16} =$
 $16 x^{-1} y z^{-15} = \frac{16y}{xz^{15}}$

7) $\frac{4xy^2}{2x^0 y^{-3} \cdot 3y^{-4}}$
 ← Simplify NUM
 ← Simplify DEN
 $\frac{4xy^2}{6x^0 y^{-7}} = \frac{2xy^2 y^7}{3} = \frac{2xy^9}{3}$

8) $\left(\frac{2y^3 \cdot x^4}{x^4 y^0}\right)^3$
 ← Simplify inside ()'s
 $(2y^3)^3$
 $2^3 y^9 = 8y^9$

OR you could subtract exp's
 $y^2 - (-7) = y^9$

9) $\frac{(2x^{-2} y^{-4})^{-3}}{2x^4 \cdot 2x^2 y^3}$
 ← simplify num
 ← simplify den
 $\frac{2^{-3} x^6 y^{12}}{4x^6 y^3} = \frac{y^{12-3}}{2^3 \cdot 4} = \frac{y^9}{32}$

10) $\frac{(-a^3 b^2)^4}{(-2a^2)^3}$
 $= \frac{(-1)^4 a^{12} b^8}{(-2)^3 a^6} =$
 $\frac{1 a^{12-6} b^8}{-8} = \frac{a^6 b^8}{-8}$
 Simplify numbers