Properties of Exponents Test

Use product rule and simplify. Write your answers in positive exponents.

1) $z^2 \cdot z^{-6}$

2) $u^{10} \cdot u^2$

3) $r^{-4} \cdot r^{-3}$

4) $6p^{-5} \cdot 8p^6 \cdot 4p^8$

5) $7h^4 \cdot 3h^{-2} \cdot 9h$

6) $9c \cdot 7c^8$

7) $(7g^2h)(3gh^2)$

8) $8xyz \cdot 7xy^2$

9) $3rs^4 \cdot st \cdot 2t^{-4}$

Use quotient rule and simplify. Write your answers in positive exponents.

1) $\frac{y^9}{y^3}$

2) $\frac{r^7}{r^5}$

3) $\frac{t^5}{t^4}$

1) $\frac{4s^{-3}t^{-4}}{8s^6t^8}$

2) $\frac{3u^8v^4}{7u^5v^2}$

3) $\frac{9p^5q^{-2}}{5p^{-3}q^6}$

Use quotient rule and simplify. Write your answers with positive exponents.

1) $\frac{9x^{-1}y^{-4}z^{7}}{4xy^{10}z^{10}}$

2) $\frac{3a^{3}b^{8}c^{-7}}{6a^{-2}b^{7}c^{5}}$

3) $\frac{2p^{-7}q^{-2}r^{5}}{8pq^{3}r^{6}}$

Use power rule and simplify. Write your answers in positive exponents.

1) $(y^{-7})^{-8}$

2) $(b^{9})^{-5}$

3) $(v^{-3})^{8}$

4) $(4q^{-2}r^{-6})^{-4}$

5) $(3v^{-2}w^{-3})^{-4}$

6) $(g^{5}h^{-7})^{8}$

7) $(w^{-6}x^{7}y^{-10})^{6}$

8) $(6x^{6}y^{4}z^{-8})^{-3}$

9) $(2x^{5}y^{3}z^{9})^{-7}$

BONUS:

1. $\left(2x^{-4}y^{-2}z\right)^{4}\left(3x^{5}y^{-6}z^{-3}\right)^{2}$

2. $\left(\frac{5x^{-2}y^{3}z^{2}}{6x^{4}y^{7}z^{-5}}\right)^{-3}$