

Name: _____

Score: _____

Power Rule

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

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

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

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

4) $(c^4)^3$

5) $(u^{-8})^{-9}$

6) $(z^9)^{-7}$

7) $(k^8)^2$

8) $(t^{-4})^{10}$

9) $(w^{-9})^{-9}$

10) $(p^{-5})^9$

11) $(x^3)^{-10}$

12) $(s^{10})^2$

13) $(m^7)^{-6}$

14) $(a^{10})^4$

15) $(h^7)^{10}$

16) $(g^9)^{-8}$

17) $(d^{-10})^{-7}$

18) $(q^{-9})^5$

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Answers

$$1) (y^{-7})^{-8} \\ = y^{56}$$

$$2) (b^9)^{-5} \\ = \frac{1}{b^{45}}$$

$$3) (v^{-3})^8 \\ = \frac{1}{v^{24}}$$

$$4) (c^4)^3 \\ = c^{12}$$

$$5) (u^{-8})^{-9} \\ = u^{72}$$

$$6) (z^9)^{-7} \\ = \frac{1}{z^{63}}$$

$$7) (k^8)^2 \\ = k^{16}$$

$$8) (t^{-4})^{10} \\ = \frac{1}{t^{40}}$$

$$9) (w^{-9})^{-9} \\ = w^{81}$$

$$10) (p^{-5})^9 \\ = \frac{1}{p^{45}}$$

$$11) (x^3)^{-10} \\ = \frac{1}{x^{30}}$$

$$12) (s^{10})^2 \\ = s^{20}$$

$$13) (m^7)^{-6} \\ = \frac{1}{m^{42}}$$

$$14) (a^{10})^4 \\ = a^{40}$$

$$15) (h^7)^{10} \\ = h^{70}$$

$$16) (g^9)^{-8} \\ = \frac{1}{g^{72}}$$

$$17) (d^{-10})^{-7} \\ = d^{70}$$

$$18) (q^{-9})^5 \\ = \frac{1}{q^{45}}$$