Name : _____ Score : _____

Teacher : _____ Date : _____

Powers of Products and Quotients

Simplify the exponents.

1) $(2h^3 \cdot 3h \cdot h^3)^2$

2) $(3k \cdot 2k^3 \cdot k^2)^3$

3) $(4w \cdot 2w^3)^3$

4) $(2h^2y^3)^3$

5) $(4s^2)^5$

6) $(3g^3 \cdot g)^2$

7) $\left(\frac{4^6}{4}\right)^2$

8) $\left(\frac{6^4}{6^5}\right)^2$

9) $\left(\frac{9g^6}{6g}\right)^3$

10) $\left(\frac{s}{s^5}\right)^2$

11) $\left(\frac{d^5}{d^6}\right)^3$

12) $\left(\frac{4h}{8h^4}\right)^3$

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Powers of Products and Quotients

Simplify the exponents.

1) $(2h^3 \cdot 3h \cdot h^3)^2$

$36h^{14}$

2) $(3k \cdot 2k^3 \cdot k^2)^3$

$216k^{18}$

3) $(4w \cdot 2w^3)^3$

$512w^{12}$

4) $(2h^2y^3)^3$

$8h^6y^9$

5) $(4s^2)^5$

$1024s^{10}$

6) $(3g^3 \cdot g)^2$

$9g^8$

7) $\left(\frac{4^6}{4}\right)^2$

4^{10}

8) $\left(\frac{6^4}{6^5}\right)^2$

$\frac{1}{6^2}$

9) $\left(\frac{9g^6}{6g}\right)^3$

$\frac{27g^{15}}{8}$

10) $\left(\frac{s}{s^5}\right)^2$

$\frac{1}{s^8}$

11) $\left(\frac{d^5}{d^6}\right)^3$

$\frac{1}{d^3}$

12) $\left(\frac{4h}{8h^4}\right)^3$

$\frac{1}{8h^9}$