

Exponents Rules

Name: _____

Date: _____

Rewrite each expression using product rule.

1) $(11x^3 \cdot 2x^2 \cdot x)^3 =$ _____

2) $(6y^3 \cdot 8y^3)^3 =$ _____

3) $(4z^2 \cdot z \cdot 3z^3)^2 =$ _____

4) $(5n^4 \cdot 7n^2)^2 =$ _____

5) $(7w^3 \cdot 4w^3)^4 =$ _____

6) $(2p^4 \cdot 3p^2 \cdot p^2)^6 =$ _____

7) $(2n^3 \cdot 2n^2 \cdot n^2)^2 =$ _____

8) $(2b^3 \cdot 4b^2)^4 =$ _____

9) $(2rs^3 \cdot 3r^2s^3)^6 =$ _____

10) $(3m^3 \cdot 4m \cdot 2)^3 =$ _____

11) $(2s^3 \cdot 4s \cdot 7s)^4 =$ _____

12) $(12m^2n^3)^2 =$ _____

13) $(5m^4 \cdot 6m^4)^2 =$ _____

14) $(10r^3)^2 =$ _____

15) $(7p^3 \cdot 2p^2 \cdot 3p)^2 =$ _____

16) $(7x^3 \cdot 3x^5)^3 =$ _____

17) $(2y^3 \cdot y^3 \cdot y^2)^7 =$ _____

18) $(3s^3 \cdot s^2 \cdot s^4)^4 =$ _____

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Rewrite each expression using product rule.

$$1) (11x^3 \cdot 2x^2 \cdot x)^3 = \underline{22^3x^{18}} \quad 2) (6y^3 \cdot 8y^3)^3 = \underline{48^3y^{18}}$$

$$3) (4z^2 \cdot z \cdot 3z^3)^2 = \underline{144z^{12}} \quad 4) (5n^4 \cdot 7n^2)^2 = \underline{35^2n^{12}}$$

$$5) (7w^3 \cdot 4w^3)^4 = \underline{28^4w^{24}} \quad 6) (2p^4 \cdot 3p^2 \cdot p^2)^6 = \underline{6^6p^{48}}$$

$$7) (2n^3 \cdot 2n^2 \cdot n^2)^2 = \underline{16n^{14}} \quad 8) (2b^3 \cdot 4b^2)^4 = \underline{4096b^{20}}$$

$$9) (2rs^3 \cdot 3r^2s^3)^6 = \underline{6^6r^{18}s^{36}} \quad 10) (3m^3 \cdot 4m \cdot 2)^3 = \underline{24^3m^{12}}$$

$$11) (2s^3 \cdot 4s \cdot 7s)^4 = \underline{56^4s^{20}} \quad 12) (12m^2n^3)^2 = \underline{144m^4n^6}$$

$$13) (5m^4 \cdot 6m^4)^2 = \underline{900m^{16}} \quad 14) (10r^3)^2 = \underline{100r^6}$$

$$15) (7p^3 \cdot 2p^2 \cdot 3p)^2 = \underline{42^2p^{12}} \quad 16) (7x^3 \cdot 3x^5)^3 = \underline{21^3x^{24}}$$

$$17) (2y^3 \cdot y^3 \cdot y^2)^7 = \underline{2^7y^{56}} \quad 18) (3s^3 \cdot s^2 \cdot s^4)^4 = \underline{81s^{36}}$$