Exponents Rules

Name:_____ Date:_____

Rewrite each expression using product rule.

1) $(3x^3 \cdot 3x^2 \cdot x)^2$ = $81x^{12}$

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

3) $(5z^2 \cdot z \cdot 2z^3)^2$ = _____

4) $(5n^3 \cdot 3n^2)^2$ = _____

5) $(2w^3 \cdot 2w^3)^5$ = _____

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

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

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

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

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

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

12) $(5m^3n^3)^2$ = _____

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

14) $(7r^4)^2$ = _____

15) $(4p^3 \cdot p^2 \cdot p)^4$ = _____

16) $(3x^5 \cdot 3x^5)^2$ = _____

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

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

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Name:_____ Date:_____

Rewrite each expression using product rule.

1) $(3x^3 \cdot 3x^2 \cdot x)^2$ = $81x^{12}$

2) $(4y^3 \cdot 2y^3)^3$ = $512y^{18}$

3) $(5z^2 \cdot z \cdot 2z^3)^2$ = $100z^{12}$

4) $(5n^3 \cdot 3n^2)^2$ = $225n^{10}$

5) $(2w^3 \cdot 2w^3)^5$ = $1024w^{30}$

6) $(p^4 \cdot p^2 \cdot p^2)^6$ = p^{48}

7) $(n^3 \cdot 2n^2 \cdot n^2)^2$ = $4n^{14}$

8) $(b^3 \cdot 3b^4)^4$ = $81b^{28}$

9) $(rs^3 \cdot r^2s^3)^2$ = r^6s^{12}

10) $(3m^3 \cdot m \cdot 2)^3$ = $216m^{12}$

11) $(2s^3 \cdot 2s \cdot 3s)^2$ = $144s^{10}$

12) $(5m^3n^3)^2$ = $25m^6n^6$

13) $(2m^4 \cdot 2m^4)^2$ = $16m^{16}$

14) $(7r^4)^2$ = $49r^8$

15) $(4p^3 \cdot p^2 \cdot p)^4$ = $256p^{24}$

16) $(3x^5 \cdot 3x^5)^2$ = $81x^{20}$

17) $(2y^3 \cdot 2y^3 \cdot 2y^2)^2$ = $64y^{16}$

18) $(s^3 \cdot 3s^3 \cdot s^3)^3$ = $27s^{27}$