Product of Powers and Power of Powers

Simplify the given expression.

1) $(x^4)^5$ x^{20}

2) $(y^3)^4$ y^{12}

3) $(a^3)^7$ a^{21}

4) $(2a)^4$ $16a^4$

5) $(3d)^3$ $27d^3$

6) $(4y^2)^3$ $64y^6$

7) $(\frac{1}{2}b^3)^3$ $\frac{1}{8}b^9$

8) $(-2x^3)^2$ $4x^6$

9) $(x^2y)^4$ x^8y^4

10) $(2c^3d)^5$ $32c^{15}d^5$

11) $2x^3(3x^2)$ $6x^5$

12) $(-ab)(a^2b)^2$ $-a^5b^3$

13) $(-2xy)^3(-x^2)$ $8x^5y^3$

14) $(86^3)^2(\frac{1}{4}b^2)^2$ $25285452200b^4$

15) $(-x)^5(-x)^2(-x)^3$ x^{10}

16) $(abc^2)^3(a^2b)^2$ $a^7b^5c^6$

17) $(-3xy^2)^3(-2x^2y)^2$ $r^4s^{14}t^9$

18) $(-5c^2d)^2(-2cd^2)^3$ $-200c^7d^8$

19) $(2t)^3(-t^2)$ $-8t^5$

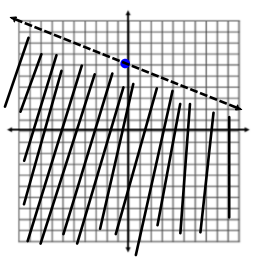
20) $(-3cd)^3(-d^2)$ $27c^3d^5$

21) $(y^n)^z(y^3)$ y^{nz+3}

22) Bobbie is saving for college. She invests $1100 into a mutual fund for 7 years earning 6.7% interest compounded quarterly. How much will she have in the account at the end of the 7 years?

$1100(1+\frac{.067}{4})^{(4*7)}$ = $1751.42

23) Graph the inequality $y < \frac{-2}{5}x + 6$



24) Solve for n: $3n - 2 = 2(4 - 7n) - (n - 8)$

n = 1