Properties of Exponents – Day 2

Simplify each expression.

1) $(t^2)^2(t^5)^2 =$	2) $\left(\dfrac{5y^4}{y}\right)^3 =$	3) $(3mn^2)^3 =$
4) $(2x^{\frac{1}{2}}y)^3 x^2 =$	5) $(xy)^3 (x^2y)^2 =$	6) $(3b^2)^2(a^2b^4)^3 =$
7) $9m^3(6m^{\frac{1}{3}}n^4) =$	8) $(6a^4c^2)(-4a^5b^3c)(2abc) =$	9) $\dfrac{a^5 b^{\frac{3}{2}} c^3}{a^2 b^2 c^{\frac{4}{3}}} =$
10) $\dfrac{-3x^4y^5}{12x^2y} =$	11) $\dfrac{(-2m^3n^5)(9mn)}{-3m^6n^2} =$	12) $\dfrac{(2a^3b^5)^2(6ab)}{-3a^5b} =$

13) Find the area of the square that has side length $5a^6$.

14) The area, A, of a parallelogram is $30x^{12}y^9$ square feet. The height, h, of the parallelogram is $5x^5y^2$. The area of a parallelogram can be found by using the formula $A = bh$. Find the length of this parallelogram's base, b.

15) A rectangular prism has a length of a^2b, a width of $a^{\frac{1}{2}}b^2$, and a height of $a^{\frac{1}{2}}b^6$. Which expression represents the volume of the rectangular prism?

16) Which expression represents $\left(-3x^{\frac{1}{3}}\right)^2 \left(4x^{\frac{1}{4}}\right)^4$ in simplest form?

REVIEW.

17) Find the value of q that makes the following proportion true.

$$\frac{q+2}{5} = \frac{2q-11}{7}$$

18) Translate into an equation: "*The difference of half a number and 7 is the same as the sum of the number and 13.*"

Equation: _____

**Bonus: Solve the equation you wrote for #18.