Simplify.

4. $(4a^{-9}bc^4)(2a^{-2}b^7c^{-2})(5a^8b^{-1}c^5)$

$= 40\,a^{-3}\,b^7\,c^7$

$= \dfrac{40\,b^7c^7}{a^3}$

Simplify.

5. $6(3^{-2}g^{10}h^{-4})(4g^{-3}h^2)$

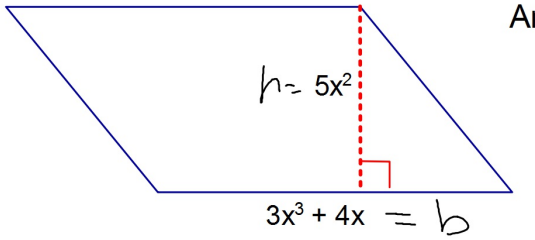
24

$24 \cdot 3^{-2} \cdot g^7 h^{-2}$

$= \dfrac{24\,g^7}{9\,h^2}$

$= \dfrac{8\,g^7}{3\,h^2}$

Find the area if this parallelogram.



Area = bh

$(3x^3+4x)(5x^2)$

$= 15x^5 + 20x^3$

You can now do Hwk #10

Sec 8-3

Due Thursday

Pages 407 - 408

Problems 10, 12, 16-18, 21, 28, 40, 44-47

Find product without a calculator. Give your answer in Scientific Notation.

$(2.5 \times 10^4)(3 \times 10^5)$

$= (2.5)(3) \cdot (10^4) \cdot (10^5)$

$= 7.5 \times 10^9$

$(6 \times 10^{-5})(4 \times 10^{-3})$

$= 24 \times 10^{-8}$

$= 2.4 \times 10^{-7}$

Simplify each.

1. $Q^4 \cdot Q^{-3} \cdot Q^7 = Q^{4+-3+7} = Q^8$

2. $(Q^6)^3 = Q^6 \cdot Q^6 \cdot Q^6$

$= Q^{6+6+6} = Q^{18}$

Section 8-4: More Multiplication Properties of Exponents

Raising a Power to a Power:

$(x^a)^b = x^{a \cdot b}$ Multiply exponents

Simplify each. Make sure answers don't have any exponents that are zero or negative.

1. $(h^4)^3 = h^{4 \cdot 3} = h^{12}$

2. $(P^{-6})^7 = P^{-6 \cdot 7} = P^{-42} \rightarrow \frac{1}{P^{42}}$

3. $(D^9)^{-4} = P^{-36} = \frac{1}{P^{36}}$

4. $(B^{-3})^{-5}(B^3)^4$

$= B^{15} \cdot B^{12} = B^{27}$

Simplify

5. $(7m^3n^5)^2 = 7^2m^{3\cdot2}n^{5\cdot2} = 49m^6n^{10}$

Property **Raising a Product to a Power**

For every nonzero number a and b and integer n, $(ab)^n = a^n b^n$.

Every part inside the parentheses is raised to the exponent that's on the outside.

Simplify. Make sure your answer doesn't have any exponents that are negative or zero.

6. $(3a^4b^{-3})^2(2a^2b^5)^3$

$(9a^8b^{-6})(8a^6b^{15}) = 72a^{14}b^9$