

Chapter 7 Prerequisite Skills

BLM 7-1

Apply the Exponent Laws

- Simplify. Identify the exponent law that you used.
 - $(c)^3(c)^4(c)^5$
 - $(4x^2y)(3xy^3)$
 - $(2m)(5n^3)$
- Simplify. Identify the exponent law that you used.
 - $\frac{w^8}{w^3}$
 - $\frac{(4p)(pq)}{8q^2}$
 - $\frac{-42x^2y^3}{14x^2y}$
- Simplify. Identify the exponent law that you used.
 - $(x^3)^5$
 - $(m^2n^3)^4$
 - $(3p^2q)^3$
- Simplify. Identify the exponent laws that you used.
 - $\frac{(2m^2)(2mn^2)^2}{(2m^2n)^3}$
 - $\frac{(x^2)^3(xy^2z)^2}{x^3y^4}$

Solve Quadratic Equations

- Solve by factoring.
 - $x^2 - 2x - 3 = 0$
 - $6m^2 + m = 12$
 - $4p^2 + 12p + 9 = 0$
 - $2r^2 + 4 = 9r$
 - $6y^2 + 19y + 10 = 0$

- Solve by applying the quadratic formula.
 - $2x^2 - x - 4 = 0$
 - $v^2 = 2v + 5$
 - $d = 4d^2 - 1$
 - $6m^2 + 4m - 8 = 0$
 - $-2a^2 + 7 = 12a$

Simplify a Radical Expression

- Simplify.
 - $\sqrt{12}$
 - $3\sqrt{27}$
 - $\frac{12 + \sqrt{72}}{6}$
 - $\frac{-6 + \sqrt{32}}{2}$

Apply the Power Law of Logarithms

- Evaluate, using the power law of logarithms.
 - $\log_6 36^4$
 - $\log_5 \frac{1}{125}$
 - $\log_4 \sqrt[3]{16}$
 - $\log_2 \sqrt{0.125}$
- Evaluate, correct to three decimal places.
 - $\log_2 5$
 - $\log_8 3$
 - $\log_2 10$
 - $\log_{\frac{2}{3}} \frac{1}{3}$
- Solve for t , correct to two decimal places.
 - $4^t = 7$
 - $3.9^{t-6} = 12.4$
 - $2^{3t} = 15$
 - $\left(\frac{4}{3}\right)^t = \frac{7}{6}$