*AAT

Chapter 1: Practice (HW)

Name: Key

Date: _____ Period: _____

If the expression has a fractional exponent, rewrite it using a radical. If the expression has a radical, rewrite it using exponents.

$8^{\frac{3}{7}}$ $\sqrt[7]{8^3}$

$25^{\frac{3}{5}}$ $\sqrt[5]{25^3}$

$\sqrt[4]{21}$ $21^{\frac{1}{4}}$

$\sqrt[3]{p^2}$ $p^{\frac{2}{3}}$

$(x^3)^{\frac{2}{5}}$ $\sqrt[5]{x^6}$

$(a-5)^{\frac{-1}{3}}$ $\sqrt[3]{\frac{1}{a-5}}$

$\sqrt[8]{a^3b^5}$ $a^{\frac{3}{8}}b^{\frac{5}{8}}$

$(\sqrt[3]{ab^2})^5$ $a^{\frac{5}{3}}b^{\frac{10}{3}}$

Simplify. Write answers with positive exponents.

$(2^3z^5)^{-2}$ $\frac{1}{2^6z^{10}}$ or $\frac{1}{64z^{10}}$

$(3ab^2c^5)^3$ $27a^3b^6c^{15}$

$c^2 \cdot c^5 \cdot c^{-4}$ c^3

$(3a^2b)(-4b^5c^2)$ $-12a^2b^6c^2$

$(2xy^2)^3(3x^{-1}yz^2)^{-2}$ $\frac{8x^5y^4}{9z^4}$

$\frac{3ab^2}{2b^{-3}c^4}$ $\frac{3ab^5}{2c^4}$

$\frac{-7m^2n^3}{2m^3n^{-4}}$ $\frac{-7n^7}{2m}$

$\frac{5(r^2s^{-3})^2}{6s^2t^3}$ $\frac{5r^4}{6s^8t^3}$

Match each trinomial with its factors.

$x^2-7x+10$	D	A. (x+5)(x+2)
$x^2+3x-10$	B	B. (x+5)(x-2)
$2x^2+7x+5$	F	C. (x-5)(x+2)
$x^2+7x+10$	A	D. (x-5)(x-2)
$2x^2+11x+5$	E	E. (2x+1)(x+5)
$x^2-3x-10$	C	F. (2x+5)(x+1)

Decide whether each square root is rational or irrational. If it is rational, give its value.

$\sqrt{\frac{4}{18}}$ I;

$\sqrt{\frac{9}{4}}$ R; $\frac{3}{2}$

$-\sqrt{49}$ R; -7

$\sqrt{\frac{32}{50}}$ R; $\frac{4}{5}$