Intermediate Algebra

7-2

(Day 1)

Properties of Radicals

A radical expression is in ***Simplest Radical Form*** when:

1) No perfect square factors under the radical.

$\sqrt{8} = \sqrt{4 \cdot 2}$

$= 2\sqrt{2}$

2) Coming Soon...

3) Coming Soon...

Simplify.

10 · 5

*1) $\sqrt{50}$

$\sqrt{25 \cdot 2}$

$5\sqrt{2}$

*2) $\sqrt{72}$

$\sqrt{9 \cdot 8}$ $\quad$ $\sqrt{36 \cdot 2}$

$3\sqrt{8}$ $\quad$ $6\sqrt{2}$

$3\sqrt{4 \cdot 2}$

$6\sqrt{2}$

*3) $\sqrt[2]{-16x^4}$ (2 even)

can't do

$\varnothing$

Simplify.

*4) $\sqrt{18x^3y^9z^{12}}$

$\sqrt{9 \cdot 2 x^3 y^9 z^{12}}$

$3xy^4z^6\sqrt{2xy}$

*5) $\sqrt[3]{-8x^3y^5z^{13}}$

$-2xyz^4\sqrt[3]{y^2z^1}$

$3\sqrt{5}$ $\quad$ $\frac{3}{2}$

outside

$2\sqrt{5}$ $\quad$ $2\sqrt{9}$ $\quad$ 4 & 1

2

1

inside

$\sqrt{}$

Simplify.

$1\sqrt{2} + 1\sqrt{2} = 2\sqrt{2}$

$\sqrt{2} + \sqrt{3}$ = as is

don't match

$\sqrt[3]{2} + \sqrt[3]{2}$ = as is

don't match

Simplify.

*6) $\sqrt{50} + \sqrt{18}$

$\sqrt{25 \cdot 2} + \sqrt{9 \cdot 2}$

$5\sqrt{2} + 3\sqrt{2}$

$8\sqrt{2}$

*7) $2\sqrt{32x^2y^3} - xy\sqrt{98y}$

$2\sqrt{16 \cdot 2x^2y^3} - xy\sqrt{49 \cdot 2y}$

$8xy\sqrt{2y} - 7xy\sqrt{2y}$

$1xy\sqrt{2y}$

*8) $3\sqrt[3]{x^5y^7} - 8xy^2\sqrt[3]{x^2y^4}$

$3xy^2\sqrt[3]{xy} - 8xy^2\sqrt[3]{x^2y}$

$= -5xy^2\sqrt[3]{x^2y}$

Simplify.

*9) $2\sqrt{54} + 4\sqrt{72} - 2\sqrt{24}$

$2\sqrt{9 \cdot 6} + 4\sqrt{36 \cdot 2} - 2\sqrt{4 \cdot 6}$

$6\sqrt{6} + 24\sqrt{2} - 4\sqrt{6}$

$= 2\sqrt{6} + 24\sqrt{2}$

Assignment:
pg. 389
1-16 all,
17-41 odd.