Rationalize the denominator in each problem and simplify.

$$\frac{24m}{\sqrt[4]{14c^8d^3e^{13}}} \cdot \frac{\sqrt[4]{14^3\,d\,e^3}}{\sqrt[4]{14^3\,d\,e^3}} = \frac{24m\sqrt[4]{14^3de^3}}{\sqrt[4]{14^4c^8\,d^4e^{16}}}$$

$$= \frac{24m\sqrt[4]{14^3de^3}}{14c^2de^4}$$

$$= \frac{12m\sqrt[4]{14^3de^3}}{7c^2de^4}$$

$$\frac{5-\sqrt{3}}{\sqrt{3}+7} \cdot \frac{\sqrt{3}-7}{\sqrt{3}-7} = \frac{-38+12\sqrt{3}}{3-49}$$

	5	$-\sqrt{3}$
$\sqrt{3}$	$5\sqrt{3}$	-3
-7	-35	$7\sqrt{3}$

$$= \frac{-38+12\sqrt{3}}{-46}$$

$$= \frac{-19+6\sqrt{3}}{-23}$$

Rationalize the denominator.

$$\frac{(9-\sqrt[3]{x})}{\sqrt[3]{x}} \cdot \frac{\sqrt[3]{x^2}}{\sqrt[3]{x^2}}$$

$\sqrt[3]{x^3}$

$$= \frac{9\sqrt[3]{x^2}-x}{x}$$

or

$$\frac{9\sqrt[3]{x^2}}{x} - 1$$

Rationalize the denominator.

$$\frac{(12+15\sqrt[4]{6})}{\sqrt[4]{27}} \cdot \frac{\sqrt[4]{3}}{\sqrt[4]{3}} = \frac{12\sqrt[4]{3}+15\sqrt[4]{18}}{3}$$

$\sqrt[4]{3^3}$

$\sqrt[4]{3^4}$

$$= 4\sqrt[4]{3}+5\sqrt[4]{18}$$

You can now finish Hwk #10

Sec 7-3 Due tomorrow

Pages 382-383

Problems 15, 16, 21, 22, 24, 25, 30, 32, 44

3. Simplify. Assume all variables are positive. Give fractional answers in reduced form.

$$\left(\frac{16m^4}{n^{\frac{4}{3}}}\right)^{\frac{-3}{2}} = \left(\frac{n^{\frac{4}{3}}}{16m^4}\right)^{3/2} = \frac{n^{\frac{4}{3}\cdot\frac{3}{2}}}{(\sqrt{16})^3 m^{4\cdot\frac{3}{2}}}$$

$$= \frac{n^2}{64m^6}$$