Pg. A11 0.2B– Exponents and Radicals

Ex 1:
Use the properties of radicals to simplify each expression.

a) $\sqrt{12} \cdot \sqrt{3}$

b) $\sqrt[4]{\left(3x^2\right)^4}$

Ex 2:
Simplify each radical expression.

a) $\sqrt[3]{\frac{16}{27}}$

b) $\sqrt{\frac{75}{4}}$

c) $\sqrt[4]{3x^4y^2}$

d) $\sqrt[5]{160x^8z^4}$

e) $4\sqrt{27} - \sqrt{75}$

f) $\sqrt[3]{16} + 3\sqrt[3]{54}$

Ex 3:
Rationalize the denominator of the expression. Then simplify your answer.

a) $\frac{5}{\sqrt{10}}$

b) $\frac{3}{\sqrt{5}+\sqrt{6}}$

Ex 4:
Rewrite the expression in radical form.

$16^{\frac{5}{4}}$

Ex 5:
Perform the operation and simplify.

$$\frac{x^{\frac{4}{3}}y^{\frac{2}{3}}}{(xy)^{\frac{1}{3}}}$$

Ex 6:
Reduce the index of the radical.

$\sqrt[6]{x^3}$

Ex 7:
Write the expression as a single radical. Then simplify your answer.

$\sqrt{\sqrt[3]{10a^7b}}$