Mathematics 101 Worksheet 6.4,6.5

<u>Problems</u>

1) Add or subtract the radical expressions, if possible.

a) $6\sqrt[3]{11} - 10\sqrt[3]{11} + \sqrt[3]{11}$

b) $\frac{3}{4}a\sqrt{b} + \frac{1}{6}a\sqrt{b}$

c) $\sqrt[3]{ab} + a\sqrt[3]{b}$

d) $17\sqrt[3]{81} - 2\sqrt[3]{24}$

e) $x\sqrt[4]{16x} - 3\sqrt[4]{x^5}$

f) $x\sqrt[3]{16x^2} - 4\sqrt[3]{2x^5} + 5x\sqrt[3]{54x^2}$

2) Multiply the radicals and simplify the answers.

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

b) $-2\sqrt{3}(\sqrt{7} - 3\sqrt{11})$

c) $(2\sqrt{x} - 3)(2\sqrt{x} + 3)$

d) $(2\sqrt{3w} + 5)^2$

e) $(-\sqrt{z} - \sqrt{6})(2\sqrt{z} + 7\sqrt{6})$

f) $\sqrt[3]{u}\sqrt{u^5}$

g) $\sqrt[4]{q^3}\sqrt[3]{q^2}$