1. Write each radical in simplest form.

a) $\sqrt{18}$ **= $3\sqrt{2}$**

b) $\sqrt{96}$ **= $4\sqrt{6}$**

c) $\sqrt{108}$ **= $6\sqrt{3}$**

d) $\sqrt{48}$ **= $4\sqrt{3}$**

e) $\sqrt[3]{135}$ **= $3\sqrt[3]{5}$**

f) $\sqrt[3]{162}$ **= $3\sqrt[3]{6}$**

g) $\sqrt[4]{48}$ **= $2\sqrt[4]{3}$**

h) $\sqrt[4]{176}$ **= $2\sqrt[4]{11}$**

i) $\sqrt{735}$ **= $7\sqrt{15}$**

2. Write each mixed radical as an entire radical.

a) $5\sqrt{11}$ **= $\sqrt{275}$**

b) $2\sqrt{15}$ **= $\sqrt{60}$**

c) $4\sqrt[3]{2}$ **= $\sqrt[3]{128}$**

d) $7\sqrt[4]{2}$ **= $\sqrt[4]{4802}$**

e) $4\sqrt[5]{3}$ **= $\sqrt[5]{3072}$**

f) $5\sqrt{6}$ **= $\sqrt{150}$**

3. Write the LCM for 18, 20 and 42.

LCM = 1260

4. Write the GCF for 150, 275, and 420.

GCF = 5

5. The volume of a cube is 6859 in^3. Determine the surface area of the cube.

Surface Area = 2166 in^2

6. A cube has a surface area of 1176 in^2. What is its volume?

Volume = 2744 in^3