**FIU 2017 Spring**

**ESI 6455**

**Advanced Engineering Project Management**

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**Chapter 5 HW: P151 E2**

Mrs. Tolstoy and her husband, Serge, are planning their dream house. The lot for the house sits high on a hill with a beautiful view of the Appalachian Mountains. The plans show the size of the house to be 2,900 square feet. The average price for a lot and house similar to this one has been $120 per square foot. Fortunately, Serge is a retired **plumber** and feels he can save money by **installing the plumbing** himself. Mrs. Tolstoy feels she can take care of the **interior decorating**. The following average cost information is available from a local bank that makes loans to local contractors and disperses progress payments to contractors when specific tasks are verified as complete.

24% Excavation and framing complete

8% Roof and fireplace complete 3% Wiring roughed in

6% Plumbing roughed in 5% Siding on

17% Windows, insulation, walks, plaster, and garage complete

9% Furnace installed 4% Plumbing fixtures installed

10% Exterior paint, light fixtures installed, finish hardware

6% Carpet and trim installed

4% Interior decorating

4% Floors laid and finished

**a. What is the estimated cost for the Tolstoy’s house if they use contractors to complete all of the house?**

Total estimated cost is

2900 square feet \* $120 per square foot = $348,000

**b. Estimate what the cost of the house would be if the Tolstoys use their talents to do some of the work themselves.**

Because Serge is a retired plumber and feels he can save money by installing the plumbing himself. Mrs. Tolstoy feels she can take care of the interior decorating. So they can save money from “6% Plumbing roughed in”, “4% Plumbing fixtures installed”, and “4% Interior decorating”.

They can saving $348,000\*14%=$48,720, and the total cost will be $348,000\*86%=$299,280