Chapter 5 Exercise 2: The Tolstoy Project

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Fundamentals of Project Management

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2.   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 installed
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?**

Answer: The estimated cost for the Tolstoy's house, if they use contractors to complete all of the house, would be $(2,900 \ sq. ft. \ \times \$120 \ per \ square \ ft.) = \$348,000$

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

The estimated cost of the house, if the Tolstoy's use their talents to do some of the work themselves would be:

Step 1: Determine the cost savings of the items to be performed by the Tolstoy's.

Plumbing rough in	6% x $348,000	= $20,880
Plumbing fixtures installed	4% x $348,000	= $13,920
Interior decorating	4% x $348,000	= $13,920
		$ 48,720

Step 2: Subtract the cost savings from the price of the house in order to determine the new estimated total cost.

$$\$348{,}000 - \$48{,}720 = \$299{,}280$$

Answer: The estimated cost for the house, if the Tolstoy's use their talents to do some of the work is $299,280.