

5-1 Anunson Precision Painting, LLC

As a painting contractor located in suburban Kansas City, Wade Anunson specializes in residential interior painting. He knows from experience that correctly bidding a painting job depends upon a number of variables including material costs, labor costs (including prep and painting time), and a desired profit margin. Prep time involves equipment set up, minor repairs, taping windows and doors, and moving furniture and wall hangings. The primary component in material costs is the number of gallons of paint that will be used to complete a job—and this is determined by square footage of the area to be painted. Labor cost is also a function of square footage and includes the hourly wage rate for the painters. The larger the job, the longer it will take to complete. A desired profit margin should not only cover the cost of overhead (travel, insurance, office expenses, etc.), but should also put some money in your pocket at the end of the job.



Wade recently completed measurements for a residential painting job consisting of a bedroom and a living/dining room, both with standard (non-vaulted) ceilings. The bedroom was 12 ft by 14 ft (12' X 14') and had 8-foot walls. The bedroom also had a 6' x 7' closet, 3' x 7' door, and 4' x 5' window

that did not require painting. The living/dining room was 20' × 30', with 10-ft walls. The living/dining room had a 6' × 7' patio door, three 4' × 5' windows, and a 5' × 6' picture window that did not require painting. The ceilings were to be painted in each room.

1. Find the total square footage that requires painting for the bedroom and the living/dining room, and then find the total square footage for the entire painting job assuming two coats of paint.
2. One gallon of paint will cover 350 square feet and costs \$35, and each surface will require two coats. Using your answer to question 1, determine the total number of gallons required and total cost for paint, by rounding up to the nearest gallon.
3. Using a painting rate of 150 square feet per hour (including prep time), a labor rate of \$20 per hour, and a desired profit margin of 30% (or 0.3), calculate the total labor cost, profit margin, and final bid price for this painting job—including the total paint cost from question 2.

5-2 Artist's Performance Royalties

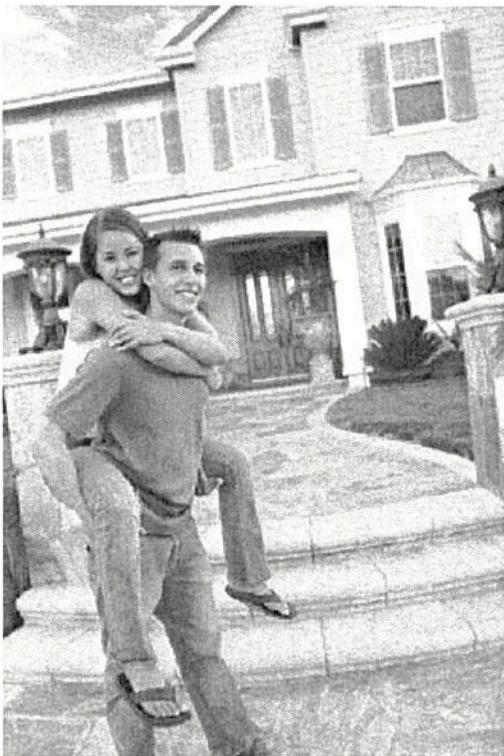
Performance rights organizations track and pay royalties to song writers, publishers, and musicians for use of their works. Royalties are paid to an artist based on a complicated credit system using a formula with weights assigned for a variety of factors, including the following:

- **Use:** weight based on the type of song or performance (theme, underscore, or promotional).

6-3 Carpeting a New Home

Knowing that home ownership is a good step toward a sound financial future, Jeremy and Catherine are excited about buying their first home. The mortgage payments on their new home fit well within their budget, but after making a \$40,000 down payment, they want to make certain they can afford any necessary improvements as well.

Their first-priority improvement is to replace the carpeting. Jeremy and Catherine recognized that their house was priced below market because the sellers knew the carpeting would need to be replaced. Their plan is to recarpet the three bedrooms, the living room, and the hallway. The area of each room is found by multiplying length by width. The result is "square feet" and is written ft^2 . The dimensions of the rooms are as follows:



1. Find the area of each room and record your results in the chart below.
2. Although they have not yet decided on a color, the grade of carpet Jeremy and Catherine are interested in costs \$36 a square yard. How much does it cost per square foot? Hint: There are 9 square feet in a square yard.

3. How much will it cost to carpet the areas listed below, and what percentage of the total cost does each room represent? Report your answers by room in the chart above; determine the total cost, and the percentage of total cost for each room. Round to one-tenth of one percent.
4. Lowe's is offering Jeremy and Catherine a 10% discount if they carpet the whole area with the same color carpet. How much will they save if they decide to do this?
5. Jeremy and Catherine feel they can pay \$2,000 in cash for carpeting right now. How many square feet of carpet can they afford to buy with the cash they have? How much would they need to borrow if they decide to carpet all the areas listed above with the same color carpet?
- 6.

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How much would it cost to carpet only the bedrooms (assume no 10% discount)? How much would it cost to carpet only the living room and hallway (again, assume no discount)?

7. Jeremy would prefer to carpet the whole area at once with the same color carpeting rather than doing it room by room; however, he is hesitant to take out another loan because they will be taking out a mortgage at the same time. He would prefer to save the full amount so that they can pay cash for their entire purchase. How long would it take for them to have enough money if they can save \$300 each month if the discount still applies? Remember, they already have \$2,000 to put toward their purchase.