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**Example 1.** A car rental agency has two different rental plans. Plan A costs \$100 per day and includes 150 miles, and then charges \$0.75 for each mile driven over 150 miles. Plan B costs \$175 per day and includes 200 miles, and then charges \$0.50 for each mile driven over 200 miles.

- (a) Find a piecewise defined function for one day with Plan A and Plan B in terms of the number of miles driven x.
- (b) After how many miles will Plan B cost less than Plan A?

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**Example 2.** A salesman working on commission earns 10% on all sales made up to \$5000. He can then earn 15% commission on the next \$10,000 in sales, and 20% on all sales above that. Find a piecewise function C for the salesman's commission on the total sales of x dollars.