

Exercise 54

You are choosing between two different window washing companies. The first charges \$5 per window. The second charges a base fee of \$40 plus \$3 per window. How many windows would you need to have for the second company to be preferable?

Solution

Write a function for the cost of each company, using x for the number of windows.

$$P_1(x) = 5x$$

$$P_2(x) = 3x + 40$$

Now find where the first company becomes more expensive than the second one.

$$P_1(x) > P_2(x)$$

$$5x > 3x + 40$$

$$2x > 40$$

$$x > 20$$

Therefore, if you have more than 20 windows to wash, it's best to buy from the second company.