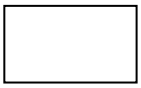
# Applications of Equations Practice

1. Determine the actual length of each side in the following rectangle if the perimeter is **58 cm**.




2. The profit made by a girl guide selling cookies is shown by the equation **P = 4(n – 25) + n**, where **P** is the profit ($) earned and **n** is the number of boxes sold.
   a) How much money will she make if she sells **50** boxes of cookies?
   b) How many boxes did she sell if she earns **$425**?

3. The amount of money that Samir earns working at a restaurant is given by the equation **A = 10.50h** where **A** is the amount of money he earns ($) and **h** is the number of hours he works.
   a) How many hours would Samir need to work if he wants to earn **$147.00**?
   b) If Samir's parents will only let him work up to **10** hours per week, what are the minimum and maximum amounts of money that he could earn in a week?

4. The cost (**C**) for a school to buy new volleyball uniforms is shown by the equation **C = 20n + 35**, where **n** is the number of uniforms ordered. The school has a **maximum of $600** to spend on the uniforms and the uniform company requires that the school order a **minimum of 5 uniforms**.
   a) Determine the minimum and maximum number of uniforms that the school could order.
   b) Determine the minimum and maximum cost of buying uniforms.

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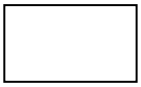


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5. The cost of taking a field trip to an amusement park is shown by the equation **C = 25a + 12s + 750**, where **C** is the cost of the trip, **a** is the number of adults, and **s** is the number of students. There are **5** teachers and **135** students going on the trip. They have rented **3** buses for the trip, which hold **54** passengers each. The school has also asked for parent volunteers to go on the trip with them.
   a) What is the maximum number of parent volunteers that can go on the trip?
   b) What is the minimum and maximum cost of the trip?

ANSWERS

***1]*** *Length = 20 cm, Width = 9 cm* ***2a]*** *$150* ***2b]*** *105 boxes* ***3a]*** *14 hours* ***3b]*** *Minimum = $0, Maximum = $105*
***4a]*** *Minimum = 5 uniforms, Maximum = 28 uniforms* ***4b]*** *Maximum = $135, Minimum = $595* ***5a]*** *22 volunteers*
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