

## How Many Balloons to Create my Arch?

These formulas were developed by Bruce Walden, CBA. They are very accurate and will work for ANY size of latex balloon.

### What is the SHAPE of your Arch?

Helium filled arches usually fall into one of these three shapes. Each arch shape has a Width and a Height. If your client tells you that they want a 20' arch, that is a straight line!

To calculate how long the line is running through the middle of your arch, pick the formula for the Shape of your Arch.

If your arch is Wider than it is Tall:  $\text{Width} + \text{Height} = \text{Length of the line}$

If your arch Width and Height are about the same:  $\text{Width} + 1 \frac{1}{2} \times \text{Height} = \text{Length of the line}$

If your arch is Taller than it is Wide:  $\text{Width} + 2 \times \text{Height} = \text{Length of the line}$

Once you know the Length of the line, use the appropriate formula below to calculate the number of balloons you need.

### How many Balloons do I need?

Here are three formulas which will help you answer that question. There is also other information on calculating clusters of 3, 5, and 6.

### String of Pearls Arch

First convert the Length of the line into inches. Just multiply L (length of the line in feet) by 12.

Your formula is:  $L$  (length in inches) divided by  $d$  (diameter of balloon in inches) = number of balloons

Be sure that you use the actual size of the inflated balloon in your formula.

For example, if you are using 16" balloons down sized to 14" for use outdoors, then 14" is the size to plug into your formula.

### Clusters of 4

If you are packing your arch with Clusters of 4, here is a two step formula to calculate the number of balloons. This will work for any size of balloons.

Your formula is: **L** (in feet) divided by **d** (in inches) times **57.6** = number of balloons

First divide the Length of the line in feet by the Diameter of the balloon in inches. Take the number from that operation and multiply it by 57.6 to get a very accurate estimate of the number of balloons.

### **Duplet Arch**

If you are packing your arch with Duplets (pairs of balloons), here is a formula to calculate the number of balloons.

**L** (in feet) divided by **d** (in inches) times **50.5** = number of balloons

### **How many balloons for my color pattern?**

If you are doing a Spiral pattern arch in clusters of 4, divide the total number of balloons by 4 to get the number of balloons you need in each color.

If you are packing clusters of 3, 5, or 6, it is easy to determine your numbers. Use the Clusters of 4 formula to calculate the number of balloons. Divide the total by 4 to learn how many clusters you will need to pack. The number of clusters will also be the number of balloons you need of each of the colors.

**Warning!** We recommend that you over estimate the number of balloons by 5-10%. This will give you some extra product to use if the size of your arch needs to change.