Fathematics
(Fashion and Mathematics)

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ABSTRACT

Mathematics is the science that deals with the logic of shape, quantity and arrangement. Math is all around us, in everything we do. It is the building block for everything in our daily lives, including architecture, (ancient and modern), art, fashion, money, engineering, and even sports.

Fashion is a popular style or practice, especially in *clothing*, footwear, accessories, makeup, body, or furniture. *Fashion* is a distinctive and often constant trend in the style in which a person dresses. It is the prevailing styles in behavior and the newest creations of textile designers. Fashion designers totally depend on math for creating patterns, shapes, trims, design details and in fact every aspect of the apparel design created.

Fashion designers use math-based computer programs to help manipulate flat garment patterns into three-dimensional shapes. Flat sketches of garments must be mathematically accurate. They are then paired with the measurement specs and given to the factory to produce the garments. Without knowledge of math, designers would not be able to draft garment patterns.

Math is also used when creating trim pages for the factory. Designers use trim pages to tell factories the number of trims needed for each garment. Any errors in arithmetic can result in huge cost overruns.Designers need a particularly good sense and understanding of geometry to successfully create three-dimensional patterns. They also need to be able to add fractions in their heads easily since most patterns are measured out in 1/8-inch increments. Being able to manipulate calculations regarding area is also important when it comes to designing how patterns should be laid out on fabric.

Points, lines, surfaces and proportion are needed in fashion. Theese mathematical statements need to be understood by fahion designers because they are the basics or creating fashion. Fashion and mathare compatible because symetry and geometry are math. In order to create fashion designs you must have the knowledge of math.

Key Words-Mathematics, Fashion and Designers

Introduction

"Using individual measurements, a pattern is drafted by scratch using the most exacting of standards. It's very clinical and scientific. Everything is measured with a ruler to the greatest degree of precision possible, much like an engineering drawing, using a drafting square and a scale formula. It's extremely complicated, and everything must be checked and double-checked. There are slightly different methods one can use, but they all involve a lot of measuring and calculation. When you are taught this for the first time, you feel as if you're studying nuclear physics, rather than pattern drafting."

Mathematics is related to fashion through geometry and symmetry.So, mathematics is not just a subject in school. Math can apply to many things in our (daily) life style, even going to the grocery store requires math (to count the money). Fashion and mathare compatible because symetry and geometry are math. In order to create fashion designs you must know that...
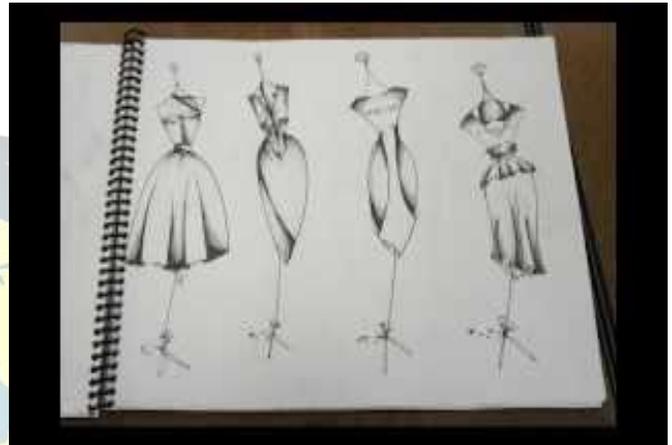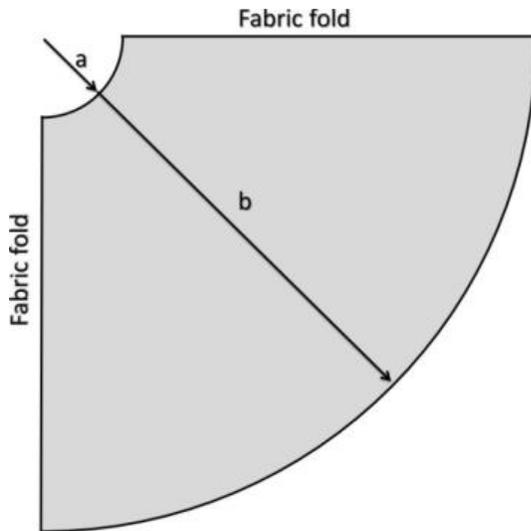
Symetry is

The quality of being made up of exactly similar parts facing each other or around an axis.

Geometry is

The branch of mathematics concerned with the properties and relations of points, lines, surfaces, solids, and higher dimensional analogs. Points, lines,

surfaces and proportion are needed in fashion. These mathematical statements need to be understood by fashiondesigners because they are the basics of creatingfashion.Length, width and height are the measurements used to find how much fabric is needed to make the garment.

Thesepicture explains how a geometry sketch can go from shapes to a real life outfit that was originally based on shapes!!!

Some may doubt that they will ever use math after high school or college. The fashion industry is not just about clothing, shopping and models; it has a lot of math incorporated into the day-to-day operations.

Measurements

Measurements are necessary in order to create the clothing. They are vital to making sure the clothes will fit models showing the clothing. Also, it is important that the measurements are tailored correctly for the customers.

Proportion

Some outfits are cut in a specific way and designed for a particular type of body. Certain models are chosen to wear particular items based upon their proportions compared to the cut of the clothing. The measurements of the model and the clothing need to coincide, which is where using math comes in.

Inventory

Stores that sell the clothing use math to decide how many of each piece of clothing they want to sell in each store. So as to not have a backlog of inventory, they compare the quantity of pieces sold and the amount that is in stock to what was initially ordered. [2] proposed a principle in which another NN yield input control law was created for an under incited quad rotor UAV which uses the regular limitations of the under incited framework to create virtual control contributions to ensure the UAV tracks a craved direction. Utilizing the versatile back venturing method, every one of the six DOF are effectively followed utilizing just four control inputs while within the sight of un demonstrated flow and limited unsettling influences. Elements and speed vectors were thought to be inaccessible, along these lines a NN eyewitness was intended to recoup the limitless states. At that point, a novel NN virtual control structure which permitted the craved translational speeds to be controlled utilizing the pitch and the move of the UAV. At long last, a NN was used in the figuring of the real control inputs for the UAV dynamic framework. Utilizing Lyapunov systems, it was demonstrated that the estimation blunders of each NN, the spectator, Virtual controller, and the position, introduction, and speed following mistakes were all SGUUB while unwinding the partition Principle.

Return on Investment

When designers buy the materials to create the clothes, they need to make sure that their return is substantial enough to cover all the costs of the initial investment. Math plays an important role in calculating the profit.

Cost of Item

Designers need to decide the price of their clothing. In addition, the stores use math to decide how much to charge for the clothing and how and when to discount

Expenses

Math is used to calculate the amount needed to spend for fabric, hangers, thread and various other items needed in the fashion industry. In addition, calculations also are made to determine production costs to make the clothing.

Fashion designers use math-based computer programs to help manipulate flat garment patterns into three-dimensional shapes. Flat sketches of garments must be mathematically accurate. They are then paired with the measurement specs and given to the factory to produce the garments. Without knowledge of math, designers would not be able to draft garment patterns.

Math is also used when creating trim pages for the factory. Designers use trim pages to tell factories the number of trims needed for each garment. Math is necessary to allow designers to order correct numbers of buttons. Any errors in arithmetic can result in huge cost overruns.Designers need a particularly good sense and understanding of geometry to successfully create three-dimensional patterns. They also need to be able to add fractions in their heads easily since most patterns are measured out in 1/8-inch increments. Being able to manipulate calculations regarding area is also important when it comes to designing how patterns should be laid out on fabric.

Shapes

Angles in design are important, for example; gored skirts, V-necklines, asymmetrical hems, etc. In order to design aesthetically appealing outfits. Geometry is used to make these appealing patterns. Designers use geometry principles to create these new designs.
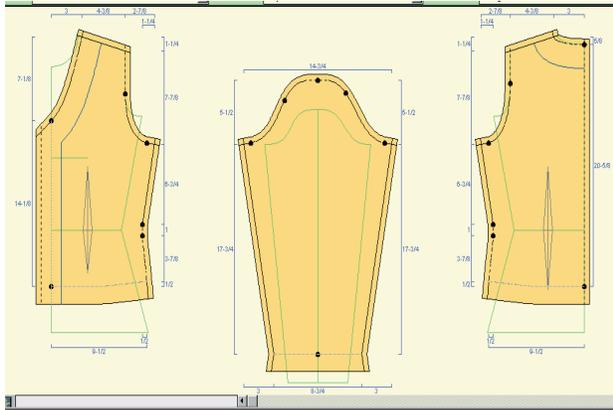
Prints – geometry in colour is fashionable and sophisticated. An outfit that is more suitable for the office or the business world may well be in a geometrical print fabric.

Foundations of design – design, regardless of what you're designing, it is based on geometry. It is fundamental to designing fashion and many other things. Without geometry the beautiful and alluring designs we see in the market would not exist.
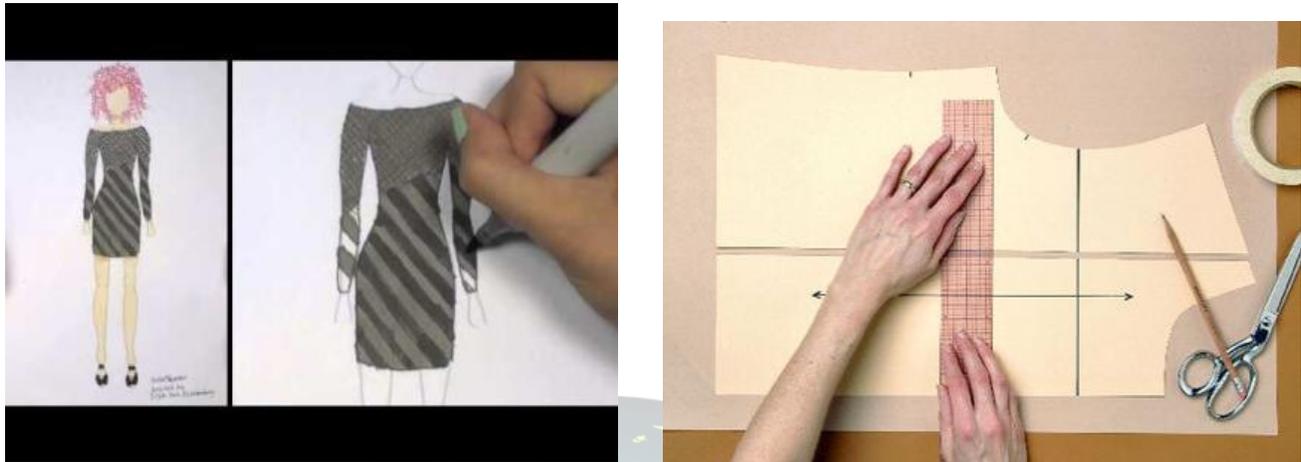
Arithmetic and geometry are necessary for fashion design, production and costing skills. Geometry explains visual phenomena. Designers need a particularly good sense and understanding of Math especially geometry to successfully create three-dimensional patterns.

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