Chapter 1 : Mathematical Quilts - Elaine Krajenke Ellison

Quilts serve as a visual introduction to mathematical concepts that allows students to explore mathematics as they gain geometric insights. My quilts will engage the viewer in mathematical visualization, helping to further the role of problem solving.

There are two main forms of patchwork that I have come across. There are many different kinds of designs. I find those based on an octagon in a square the most satisfying. This pattern is called "Castle Wall". One square made larger than usual is a cushion cover. Here are some of the stages in making the design: My next octagon-based patchwork was a wedding present. The design is called "Kaleidoscope". Here is a small section of the finished quilt: The basic square is shown below on the left and on the right you can see what it looks like when it is put together: Colouring it brings out the interlocking, almost circular, shapes in the design: Now I have started to make another quilt. It is a pattern known as "World without end" and it too is based on an octagon in a square. The Kaleidoscope pattern is turned about so that the square is the centre of the pattern piece instead of the octagon. Two of the isosceles triangles are joined and then sliced the other way to make half of a rhombus. These diagrams show the transformations required: It looks like this when the squares are put together: Again the design looks different when it is coloured. The changes are even more noticeable when the quilt is "pieced" from fabric. These are the first four squares out of thirty-six! I did not use a computer for making the pattern pieces for many years. They were constructed in the time-honoured way with a pair of compasses, ruler and graph paper. It can obviously still be done like this. My favourite book see references below on the subject actually shows how most designs can be made by paper folding. I never found this very reliable, but it is interesting mathematically. The most useful aspect of using modern technology is the ability to scale by any percent. This means that the design can be drawn out any convenient size and then scaled to what is needed. My advice to those who would design quilts is this: The best book on the subject is, amazingly, still in print after 24 years:

Chapter 2 : Math Monday: Mathematical quilts | Make:

The spiral inscribed in the Golden Rectangle 1 quilt is an approximate logarithmic spiral. This is a great example of an atmospheric perspective. Greco Roman Perspective Mathematical Harmony - Music, like mathematics, has an.

Most of the math that quilters need to use is fairly basic. I find most of the time I am only using elementary school arithmetic to calculate for quilting. To do basic quilting arithmetic you will need to purchase an inexpensive calculator. Be sure to buy one with a square root button. If you spend approximately three to five dollars you will have all the features you need. A calculator will be a very useful tool in your quilting studio. Below I have listed several math calculations that would be useful to a quilter. Example a 14" block on point would be calculated as follows. Calculating meters to yards and yards to meters Do you ever purchase thread that is measured in meters and wonder how many yards it is? Or are you using a pattern that is written in metric? Here is the formula to calculate meters to yards. Punch this in your calculator - of meters x times Calculate the circumference of a circle You will need the circumference of a circle to estimate the amount of bias binding you will need to cut when making a round quilt. In quilters terms this is pi pronounced pie x diameter. Diameter of a circle is the measurement across the widest part. Think of your circle as a pie. The diameter is the line across the pie when you are cutting it in half. Use your calculator -- punch in 3. It is an 8: This rectangle is pleasing to the eye and many art quilts are based on these figures. A credit card is sized using the Golden Mean. They want the shape of the credit card to be pleasing to us so we will buy more fabric and quilting supplies with it. To decide the size rectangle you will want for your quilt, you will need your calculator. If you know the width you would like for your quilt -- multiply width by 1. If you know the length you would like for your quilt -- divide length by 1. Enlarging and reducing on the copy machine or computer scanner Many patterns in magazines, books and online are available in a reduced form. Most of them tell you the percentage to enlarge each pattern piece or foundation pattern. Some books or patterns do not give you a percentage, they just print the pattern pieces on a grid and tell you to enlarge the grid to 1" squares or 2" square or whatever. There is a very useful tool available at art supply stores, some quilt stores, and in some online quilting sites. It is called a "Proportional Scale". It is a circular plastic wheel with numbers and percentages around the perimeter. The proportional scale has two plastic circles riveted together at the center. The smaller inner circle has numbers printed that give the "size of original". It also has a window that shows the percentage of original size and the number of times of reduction. The outer circle is the "reproduction size". Example of how to use this tool To enlarge - If you have a 7" quilting design and you would like it to be 10" you simply find the 7" marking on the "size of original" wheel and rotate this wheel until the 7" mark is lined up with the 10" mark on the "reproduction size" wheel. That is the number you program into the copier or scanner to make your enlargement. That is the number you program into the copier or scanner to make your reduction. It is well worth the investment. Many copy shops will do this for you using their "proportional scale" tool but they will charge you for each time they use it. This tool will pay for itself in only a few visits to the copy shop. Quilters math or arithmetic is not frightening. The answers to all the above "math problems" are merely a matter of knowing a formula and using your calculator. I can withdraw my consent at any time by unsubscribing. Quilt of the Week from the Quilting Board.

Chapter 3 : No-sew mathematical quilts

Kent Williams Art Quilts/Sewing With Nancy/Nancy's Corner Find this Pin and more on Mathematical Quilts by Sarah Craig. Sine Me Up H x W Kent Williams Art Quilts. Must be a mathematical puzzle.

The whole concept of a quilt block is mathematical. From simply figuring out how the design goes together to buying the fabric, you use arithmetic in many ways. There are times when a cheat sheet will help you get through the project without spending extra time to figure something out. Cheat Sheets The following sheet is designed to help you figure what the decimal value of each inch of a yard of fabric. Okay not everyone likes math. I hated the fact that, although I learned Algebra in High School, I had to re-take it in college many years later. But, thanks to a really great eighth grade teacher, Keith Clark, I learned how to use math advantageously. He realized the students that year had not received a proper education in the basics: So, he devised a method to teach us to think on our feet, so to speak. Every morning his class was the first one of the day! First is was simple addition, then subtraction and so on through the semester. We had no time to do the math on paper, we had to write down the answer before he said the next problem. He wanted us to be able to do the math in our heads! When I realized what I was doing, I made myself do the simple math in my head again and left the more complicated math to the calculators. To this day, I can usually figure out the simple tasks in my mind more quickly than it takes to punch in the information. So, why have a feature about math and quilting? Because they simply go together. If more teachers would use quilting as an approach to geometry, kids would get hooked on math and quilting, too. First, geometry is key to every block ever created. You name it, quilters use them. Secondly, we work in fractions in every part of the design process. Fortunately, we have acrylic rulers that have lines to the eighth-inch. All we need to do is line the fabric up to the right set of lines! Thank goodness someone sat down and made a cheat sheet for them! Schroll back up for your own fabric cheat sheet that you can print out.

Chapter 4 : Textile Time Travels: Early Bethlehem or Mathematical Star Quilt

This bar-code number lets you verify that you're getting exactly the right version or edition of a book. The digit and digit formats both work.

Chapter 5 : 13 best Mathematical Quilts images on Pinterest | 3d quilts, Quilt pattern and Quilt patterns

Math Quilts Online Bookstore, in association with calendrierdelascience.com, provides book reviews and purchase of books on quilts and mathematics. Current topics include basic quiltmaking, polygons, quilt pattern design, feathered stars, tessellations and tiling, Escher, geometry, optical illusions, mariner's compass, perspective, fractals and color.

Chapter 6 : Mathematics and fiber arts - Wikipedia

Just the word "math" scares some people away from quilting, but it's simple when you break it down into parts. The March/April '13 issue of Quiltmaker is #, a milestone! To celebrate, we featured a Block Bonanza of quilt blocks on page

Chapter 7 : Quilters Math - Quilting Board

Mathematical Quilting A study of quilts offers the chance to investigate tessellating shapes and an opportunity to apply transformational geometry as students slide (translate), flip (reflect) and turn (rotate) quilt pieces to create a traditional quilt or to create a tessellating quilt.

Chapter 8 : Mathematical Quilting Â« Math Craft :: WonderHowTo

Two other teachers chose to make 3' x 3' quilts based upon the Spiraling Pythagorean Triple Quilt design, shown in figures 8 and 9. This quilt was inspired, according to Venters and Ellison (), by the cover of the June Mathematics Magazine.

Chapter 9 : Mathematical Quilts - Image Page 1

Geometry and Quilting Modern mathematical designs Outline 1 Geometry and Quilting A tour of some traditional quilts Tilings 2 Modern mathematical designs L-systems Modern art and graphic design.