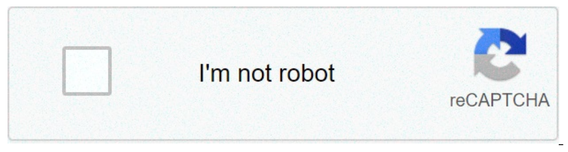

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The shapes of algebra investigation 1 answers

Cheryl started the lesson reading Macarrão and Almã'ndegas for everyone! Out loud for class. In history, Mr. and Mrs. Comfort invite 32 members of the family and friends for a meeting and set eight square tables to settle for four people in each one, one to one side. As the guests arrive, they all have their own ideas on how to reorganize the tables so that groups of different size can sit together. Mrs. Comfort protests, knowing that there will be problems to be later, but her protests are ignored. The party becomes a cheerful confusion of tables, chairs, dishes, glasses and food. Everything works at the end, however, when Mrs. Comfort was proven soon after all. When Cheryl at all reading the story, she asked the class Ã ¢ â € "What was Mrs. Comfort worried? Nicole replied, Ác â ouncer © a enough room, because when you push tables together, you lose chairs, "she said. Á €" What do you want to say? Ã ¢ â € "Asked Cheryl. Ã €" NÃƒÂ ¢ The taste, if you put two tables together, you lose place where the tables touch. It is difficult to explain. Nicole drew two tables in the air, pointing to the sides where they met. Cheryl sketched two squares on the plate, drawing an arrow where the sides touched. "Do you want to lose your chairs here?" She asked. Nicole nodded. (See Gura 1). After hearing the ideas of other ideas about Mrs. Comfort, Cheryl said, "You use color tiles to explore different ways to organize only four tables. Let's start with only four tables. Cheryl gave the class guidelines to organize the square Ã ¢ â € ‡ š â € â € â € œHe tiles touch Ã â € â € "She said Ã ¢ â €" They should do it over On the whole side. Pieces of sides or just corners playing are well. She demonstrated in the overload projector. (See GURE 2.) Cheryl also organized the pieces in a way that did not follow his rule and had students explaining why. (See GURE 3.) So she completed the instructions. "In your group, share the tiles I put on your desk and what different ways to organize Four tiles. Make sure you follow my rule. Cheryl placed about 70 tiles for each group of four students. As the students worked, Cheryl circled around the classroom, watching the students and answering questions as needed. When everyone had a chance to work on the problem, she interrupted the students and asked for his attention. "Which arrangements did you do?" Asked Cheryl. What would you like to describe an arrangement so that I can build it with tiles in the overload? Ã, you can make a straight line, à Bondon reported. "How's this?" Asked Cheryl, organizing four tiles in a 1-to-1-brandon-nodded. "Make a square with all four Ã â €" said Rachel. Cheryl built a square using four tiles. Ã ¢ â € "I made a three and an Ã ¢ ¬" said Nicole. "What do you want to say?" Cheryl asked. Ã ¢ â € "A small table as one of the natás â €" explained Nicole Ã ¢ â € "and then a 1- by-3.â € â € ™ fâª can make four tables separate Ã ¢ â € "said Nathan. Ã ¢ â € "You could make a t â €" ¬ "Said Zak. Ã ¢ â € "Process three in a row and one under the middle. Á € â € œ¬ Å" I did this too, but my ÃƒÂ £ o Down Ã ¢ â € "Eric said. Cheryl built Eric's arrangement under Zak â "¢ s and pointed to class that when you can, turn or slide a way to have exactly in another way, the shapes are congruent. Ã ¢ â € "Let's consider congruent forms to be the same as â €" explained. When the Students Arrangements â ¯¬ filled the overload, Cheryl asked, one that if the unique arrangements we used were individual rectangular tables made from four tiles? What forms should we remove? The four separate tables I suggested, ¢ Nathan said. Rifka added, and the one who looks like the letter T.A. You also have to take mine, a Nicole I'm not a single rectangle. When Malkia suggested the removal of the square, the conversation went into eruption. Some students remembered that the square was a retainer, but other didnan. Cheryl ClariÃ¯Â¬ Ed, the square is a special type of rectangle because because The sides are all the same lengths. But as a retainer, a square still has four levels of 90 degrees and parallel parallels. Cheryl wanted to make sure that the students had a way to label the rectaries they built. She outlined a 1 by 4 rectangle on the board. "I can register this in two ways Ã ¢ â €" she said, and recorded under the Retain: Cheryl, then took a square of 2 by 2 and labeled it. Cheryl pointed to the square table of 2 by 2 and asked: â € "If a person sits on one side of a small square table, and no one sits in the corners or cracks between tables, how many people can Sit here? ã, â € â € ¬ ¬ "Facecular, eight Ã ¢ â €" Nicole replied. Ã ¢ â € ‡ å "feathers Tell two people on each side times four sides." When you count the number of people who can sit at the table, you are really nding your Perimetro Ã ¢ â € "Cheryl explained. â €" That's because each person sits on one side of the smaller squares and picks up a length drive. Thus, the permetal of the 2-per-2 rectaries is 8 units. Ã, â € "The permetal of the table 1-by-4 is 10 â €" noted Eric. Cheryl had others checked Eric's assertion and also administering the vineyard of several other retains. She then introduced another problem. Ã ¢ â € ¢ â € fâ € fâ € fâ € fâ € fâ € fâ € fâ € fâ € fâ € fâ € fâ € fâ € fâ € fâ € ƒ "Suppose Mrs. Comfort had decided that all 32 people should sit at a large rectangular table and she wanted to spend how many small square tables to rent. See if you can have all possible rectangular tables of different sizes and shapes that can accommodate 32 people. â € "Each table has to apply exactly 32? Ã, â € "I wanted to know. Á €" Yes â € "" Cheryl replied. "How many tiles do we use? Ã ¢ â € "asked Malkia. Ã ¢ â €" will depend on the tables that you build â € "" Replied Cheryl. Ã ¢ â € "Can I work with a partner? Ã ¢ €" asked Nicole. Á €" Yes â € "Cheryl Ã ¢ â €" But keep your own record. There were no more questions. Cheryl gave a lot of direction. It ¬ ¬ use the tiles, but draw your solutions on a piece of paper. Be sure to record the dimensions of each table and the number of people who are based. Observing the children for the rest of the classroom, Cheryl observed the students at work and gave assistance when necessary. She watched Kathleen make a 16-steering rectangle for 2. â € "HmÃƒ Ã ¢ â €" "Said Kathleen out loud while I worked" I see visa, 32 people. Because 16 times 2 is 32. Kathleen frowned at the concentration as he counted the sides of the squares. Then she looked at Cheryl in surprise. Ã ¢ â € ¢ â € ¢ "I said 36 places, but this does not make sense, because 16 times 2 is 32. Maybe I told you wrong. She counted the sides again. â € , ¬ "Still 36. Huh. Kathleen shrugged, mixed the 16 tiles back to the stack in the middle of the table, and began to build another rectangle. "What are you doing?" Asked Cheryl. Ã ¢ â € ¬Å "Well, I must have messed up" because the first one I did would not work, then Ã ¢ â € "I'll try something else Ã ¢ â € ¬ "Replied Kathleen. Á €" What will you try? Ã ¢ â € "Asked Cheryl. ~ Ã € ‡ ‡ I do not know. I just move and see what happens â € ¬ ¬ said. Cheryl watched as Kathleen began to put tiles on a long row a spark. She kept telling the sides one for one every time she added a new tile. Finally she smiled. Ã ¢ â € "It works! This sits 32 people. It is 1 to 15. Now to burn it. Kathleen began to sketch the rectangle on his role. Alex was sitting in front of Kathleen. . Ã ¢ â € "I thought it was also â €" "he said. Á €" Now I'm trying a 2 for something. Ã ¢ â € "Oh â €" Kathleen replied and then began to build a rectangle that had four squares wide. Nathan came to Cheryl. Ã ¢ â € "I'm not drawing rectaries in my As everyone ã â € "I said. ~ â € ‡ ‡ I decided to use xs instead. But Luke told me it was wrong. Can not I draw xs if I want to? Nathan showed Cheryl your paper. . Cheryl asked Nathan to explain what he had done. Satisfied that he understood what he was doing, Cheryl said: â € â € "What did you do make sense felt. Me. Nathan ran back to Luke. "I told you that she would say that she was well," he said. Cheryl continued around the classroom. At the end of the period, she saw that all students found some of the rectaries and some have found them all. She asked the kids to keep the tiles and collected his papers. Cheryl planned to continue the lesson the next day. The next day, the next morning, Cheryl gave the class an extension to consider. Á € "What is the least expensive way to accommodate 32 people on a large rectangular table? And what is the most expensive way? To answer, some of you need more desktop arrangements . After about 10 minutes, Cheryl interrupted students to start a lesson discussion. "What options would the comforts have to settle for all 32 people at a table? "Asked Cheryl. The students' hands fired." They had a lot, eight to be exact," said Rachel. Most students nodded or murmured his agreement. . Á € "Can anyone describe the dimensions of the tables that would work? Ã ¢ â € "Asked Cheryl. Ã €" I will register them on the board. Eric reported Ã â € £¬ å "One-Times-15, 2-Times-14, 3-Times-13, 4-Times-12, 5 times- 11, 6-Times-10, 7Times -9 and 8 times-8.â-8. After Cheryl recorded the dimensions, she came back and sketched each corresponding retain. "Ah, I see a pattern! Á € â €" said Anfernee. "Can I show this?" Cheryl nodded and Anfernee came to the board. She said, pointing, pointing: Ã ¢ ¬ Å "from the top to the bottom goes 1, then 2, then 3, then 4, then 5. , and so on, until 8. â € "And the other side falls Ã ¢ â €" added Ann Maria. ~ Oh, yes, I saw this ã "Anfernee said. ~ Ã € ‡ ‡ yeah, 15, 14, 13 and on and on and on.â € ¬ He sat back. Ã ¢ â € œ "You should continue? Ã ¢ â €" "Asked Cheryl. Ã ¢ â € fâ € fâ € £ o A Retreat of 9 to 7 coming? Ã ¢ â € (see Gura 6.) Ã ¢ â € "You are already that jÃ¡ â €" said Malkia. Ã ¢ â € ‡ š "Yeah, 9-per-7 and 7-per-9 are the same Ã ¢ â €" added Nicole. Ã ¢ â € "All 8-Times-8 are Repeated Ã ¢ â € "said Kirsten Ã ¢ â €", will not count on. "Let's think about how many square tables mr. And Mrs. Comfort would have to rent for every big rectangle Ã ¢ â €" said Cheryl. Ã ¢ â € "How many would have to rent by a table of 15 per 1? Á €" new. Easy Ã ¢ â € "replied several students. Á €" What about 2 for 14? Ã ¢ â € "continued cheryl. Á €" How many tables would have to rent for this arrangement? Ã ¢ â € "Twenty-eight Ã ¢ â €" called many children. Ã ¢ â € "What about the arrangement of 3 by 13? Á € â €" Asked Cheryl. The class quickly picked up what Cheryl was doing. Á ¢ â € "You just multiplying Ã ¢ â €" "Rifka said. Ã ¢ â € "This does this for all of them â € 28, 39, 48, 55, 60, 63 and 64. â €" What do you perceive about the forms of the tables? Cheryl So He asked. Malkia said: â € "The 8-per-8 is a square, and all the rest are retains. Ã, â € "But 8 to 8 is a retainer too, remembers Malkia. Ã ¢ â € ¬ ¬ ¬ ¬" said Brandon. Ã ¢ â € "if they organize A long and thin retain for 32, so they can do with only 15 tables. It's cheaper like this. Ã, â € "and they save space too, since the 1-Times-15 occupies the smallest amount of space Ã ¢ ¬" added SharNet. Ã ¢ â € ‡ å "you need a long room, however Ã ¢ â €" added Nicole Ã ¢ â € "ÃƒÂ ¢" by the banquet of a king. Cheryl then stopped the conversation and gave a task of writing to evaluate each studentâ € "¢" it's thinking. She wrote three questions about the Council for the Children to Reply: Which patterns were as you worked? What table arrangements are the most and less economy? What do you realize about the areas and permetrometers of the arrangements you did? Students worked on the task for the rest of the class. class.