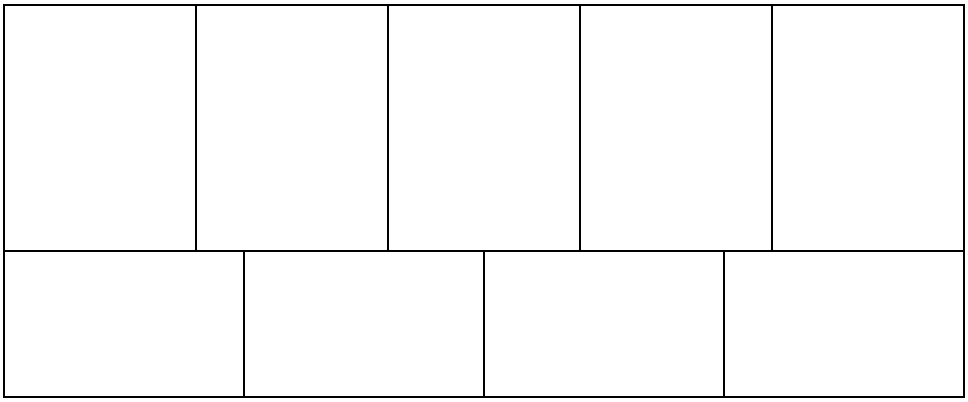
"Math is Cool" Championships – 2014-15

Sponsored by:

8th Grade – November 7, 2014

Pressure Round Contest

1	The graph of a function f(x) = 6x + a passes through two points (3, 26) and (b, 2b). Find the sum of a and b.
2	The rectangle below consists of nine congruent rectangles. If the area of the largest rectangle is 180 cm^2, what is the perimeter, in cm, of one of the small rectangles?  Picture not drawn to scale.
3	Use the statement below to answer the question that follows. If pigs cannot fly, then they will not go to Arizona for the winter. Which statement below is logically equivalent to the above statement? (A) If pigs can fly, then they will go to Arizona for the winter. (B) If pigs go to Arizona for the winter, then they can fly. (C) If pigs do not go to Arizona for the winter, then they cannot fly. (D) If pigs go to Arizona for the winter, then they cannot fly.
4	The solution set to the following inequality $2\|x-5\|-4 \leq 10$ is $\{x\|a \leq x \leq b\}$. What is the product of "a" and "b"?
5	The lengths of two sides of a triangle are 11 and 19. What is the sum of all the whole number lengths the third side of the triangle could be?

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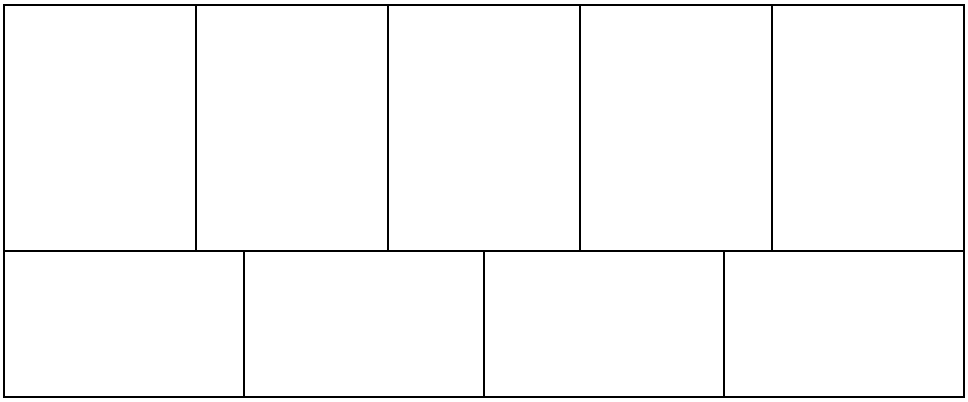
2	The rectangle below consists of nine congruent rectangles. If the area of the largest rectangle is 180 cm^2, what is the perimeter, in cm, of one of the small rectangles?  Picture not drawn to scale.
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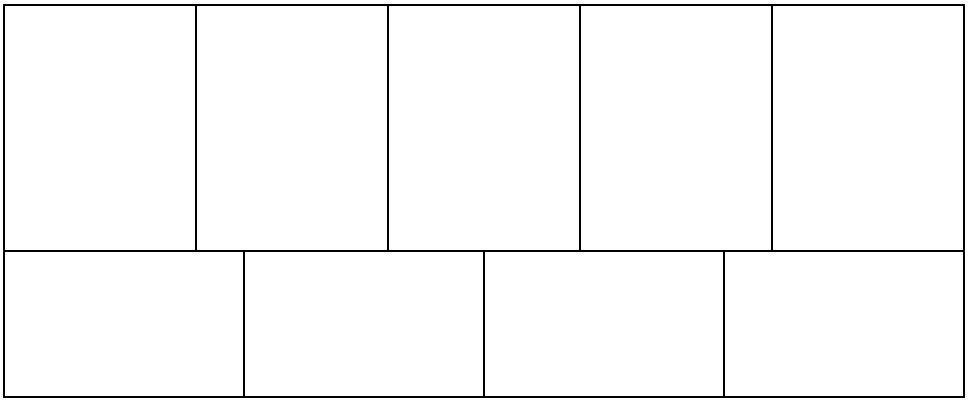
2	The rectangle below consists of nine congruent rectangles. If the area of the largest rectangle is 180 cm^2, what is the perimeter, in cm, of one of the small rectangles?  Picture not drawn to scale.
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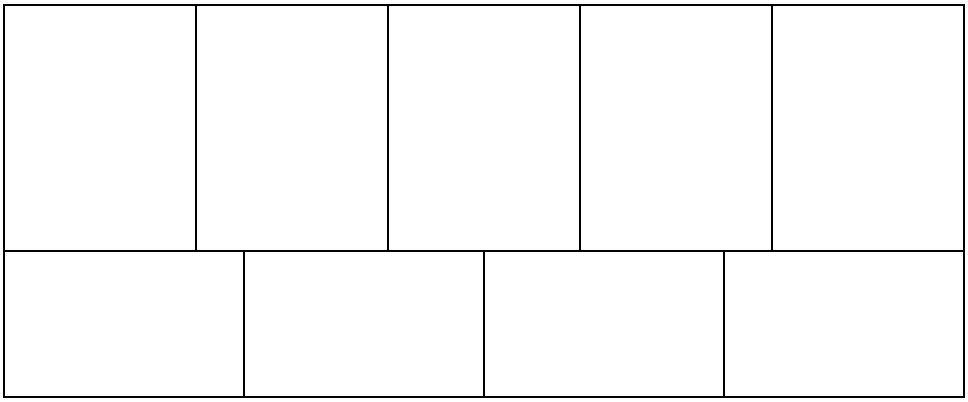
2	The rectangle below consists of nine congruent rectangles. If the area of the largest rectangle is 180 cm^2, what is the perimeter, in cm, of one of the small rectangles?  Picture not drawn to scale.
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