

Errata for the 2010-2011 through 2014-2015 School Handbook

2014-2015 MATHCOUNTS School Handbook (last updated on October 16, 2014)

Warm-Up 11 Problem #157: We are asked to determine the point of intersection of two segments, one with endpoints (2, 6) and (5, 9) and the other with endpoints (-1, -1) and (5, -7). However, these two segments do not intersect, but the lines that contain each segment do intersect at (-3, 1). The problem should read:

What are the coordinates of the point at which the **line through the points** (2, 6) and (5, 9) intersects the **line through the points** (-1, -1) and (5, -7)? Express your answer as an ordered pair.

In the solution, each reference to a “segment” should be replaced with a reference to a “line.”

2013-2014 MATHCOUNTS School Handbook (last updated on September 1, 2013)

We do not have records of errata for this School Handbook.

2012-2013 MATHCOUNTS School Handbook (last updated on September 7, 2012)

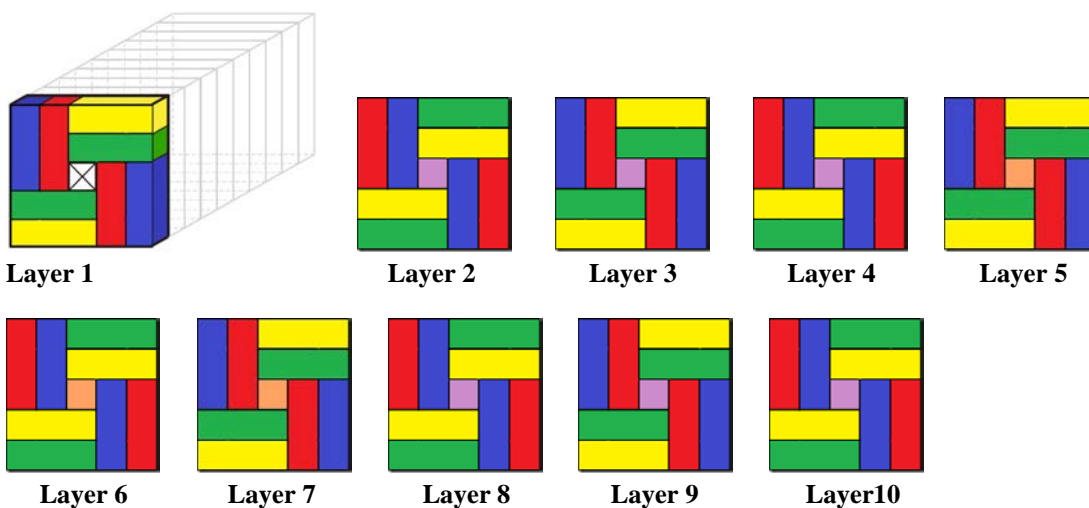
We do not have records of errata for this School Handbook.

2011-2012 MATHCOUNTS School Handbook (last updated on January 11, 2012)

Warm-Up 16 Problem #227: The correct answer is **83** blocks. The solution in the handbook mentions that the problem cannot be solved by simply determining the volume of the box to be $5 \times 5 \times 10 = 250 \text{ in}^3$ and dividing this by the volume of each block, which is $3 \times 1 \times 1 = 3 \text{ in}^3$.

Though, in this case doing so yields the correct answer since $250 \div 3 = 83\frac{1}{3}$. Consider the maximum number of $7'' \times 1'' \times 1''$ blocks that will fit into the interior of a box with dimensions of $5'' \times 5'' \times 10''$. Dividing the volumes we get $250 \div 7 = 35\frac{5}{7}$, however, the maximum number of $7'' \times 1'' \times 1''$ blocks that will fit in this box is 25.

Below is one configuration of 83 $3'' \times 1'' \times 1''$ blocks in a box with dimensions $5'' \times 5'' \times 10''$ if we consider ten $5'' \times 5'' \times 1''$ layers:



Note there is only one $1" \times 1" \times 1"$ section of the box that remains unfilled. The purple square in the center of rows 2, 3 and 4 represents one block in the center that passes through each of these three layers. The same is true for rows 5, 6 and 7, and rows 7, 8 and 9. We are aware of one additional configuration of 83 blocks; however, there may be others.

Workout 7 Problem #207: The correct answer is $k = 1/5$ or $k = -1/5$. As written, there is nothing in the problem that restricts point P to a location between points A and B on the line containing points A and B. In fact, there is a point P on the line containing points A and B such that point A is between points B and P, and $AP:PB = 1:2$. Let (x, y) be the coordinates of point P. Then we have $x - 0 = 2(x - 5) \rightarrow x = 2x - 10 \rightarrow x = 10$. Similarly, we have $2 - y = 2(0 - y) \rightarrow -2y = 2 - y \rightarrow y = -2$. That means the coordinates of point P are $(10, -2)$. Substituting these values into the equation $y = kx$ we get $-2 = 10k \rightarrow k = -1/5$.

2010-2011 MATHCOUNTS School Handbook (last updated on September 16, 2011)
We do not have records of errata for this School Handbook.