Math Team
Meet 1 Events A and B Problems 1-2 2018-20 Practice

Event A

Problem #1 ("quickie"; 1 point)

Try to solve each problem within one minute.

1. Find the sum of the two solutions to this absolute value equation: $|2x + 1| = 9$. [calculator allowed] (MSHSML 2019-20 2A #1)

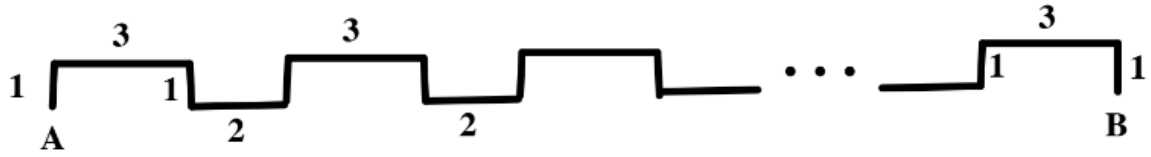
1. Sal earns $30.00 for a day's work but also receives a commission of 5% on all the merchandise she sells. If she earned $120.00 yesterday, how much merchandise did she sell? [calculator allowed] (MSHSML 2018-19 2A #1)

Problem #2 ("textbook"; 2 points)

Try to solve each problem within two minutes.

2. I have nickels, dimes, and quarters in my pocket. The total of this change is \$3.90. I have twice as many nickels as dimes and half as many quarters as one of the other coins. How many dimes do I have? [calculator allowed] (MSHSML 2019-20 2A #2)

2. The figure below is a portion of a highway wall as seen from above. The vertical sections are each 1 meter wide, the upper horizontal sections are each 3 meters wide, and the lower horizontal sections are 2 meters wide. If the length of the wall, i.e., the straight-line distance from A to B is 2018 meters, how many total sections are there in the wall? [calculator allowed] (MSHSML 2018-19 2A #2)



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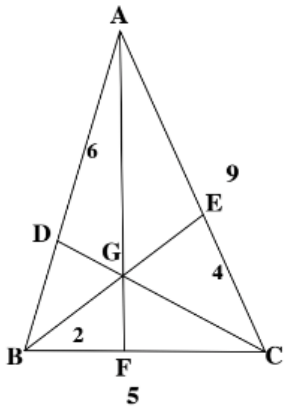
Event B

Problem #1 ("quickie"; 1 point)

Try to solve each problem within one minute.

1. When the height of a triangle is quadrupled (made four times larger), its area increased by 2019. What is the area of the original triangle? [calculator allowed] (MSHSML 2019-20 2B #1)

1. In $\triangle ABC$ at the right, $AC = 9$ and $BC = 5$. Segments $\overline{BE}$, $\overline{CD}$, and $\overline{AF}$ are concurrent at G. If $BF = 2$, $CE = 4$, and $AD = 6$, determine exactly DB. [calculator allowed] (MSHSML 2018-19 2B #1)



Problem #2 ("textbook"; 2 points)

Try to solve each problem within two minutes.

2. In $\triangle ABC$, $AB = 13$, $BC = 4$, and $CA = 15$. Cevian $\overline{AD}$ is drawn such that $CD = 1$. Determine exactly $[ADC]$.[1] [calculator allowed] (MSHSML 2019-20 2B #2)

2. What is the area of a triangle with side lengths 25, 25, and 48? [calculator allowed] (MSHSML 2018-19 2B #2)

[1] The notation $[ABC]$ indicates the area of the polygon (a triangle, in this example) ABC.