Math Team

Meet 3 Events A and B Problems 1-2 Practice (2016-17 through 2017-18)

Event A

Problem #1 ("quickie"; 1 point)

Try to solve each problem within one minute.

1. If $x + 2y = 9$ and $2x + y = 12$, what is the value of $x - y$? [calculator allowed] (MSHSML 2017-18 3A #1)

1. Determine exactly the area of the region in the first quadrant bounded by $\frac{x}{4} + \frac{y}{10} = 1$. [calculator allowed] (MSHSML 2016-17 3A #1)

Math Team

Meet 3 Events A and B Problems 1-2 Practice (2016-17 through 2017-18)

Event A

Problem #2 ("textbook"; 2 points)

Try to solve each problem within two minutes.

2. If the following three lines intersect at a single point, what is the value of $b - a$? [calculator allowed] (MSHSML 2017-18 3A #2)

$$2x + y = 1$$
$$3x - y = 4$$
$$ax + by = 7$$

2. Given $\begin{vmatrix} 2 & 9 \\ 3 & b \end{vmatrix} = 2$, determine exactly $\begin{vmatrix} 9 & 2 \\ b & 3 \end{vmatrix}$. [calculator allowed] (MSHSML 2016-17 3A #2)

Math Team

Meet 3 Events A and B Problems 1-2 Practice (2016-17 through 2017-18)

Event B

Problem #1 ("quickie"; 1 point)

Try to solve each problem within one minute.

1. The diagonals of a rhombus are 6 and 8. Calculate the area of the rhombus. [calculator allowed] (MSHSML 2017-18 3B #1)

1. Determine exactly the surface area of a sphere whose volume is 36π. [calculator allowed] (MSHSML 2016-17 3B #1)

Event B

Problem #2 ("textbook"; 2 points)

Try to solve each problem within two minutes.

2. Determine exactly the area of an equilateral triangle if its circumscribed circle has a radius of 10. [calculator allowed] (MSHSML 2017-18 3B #2)

2. When the side lengths of a cube are all increased by 1, the surface area increases by 90. Calculate the volume of the original cube. [calculator allowed] (MSHSML 2016-17 3B #2)