Math Team

Meet 3 Events A and B Problems 3 Practice 2016-17 and 2017-18

Event A

Problem #3 ("textbook with a twist"; 2 points)

Try to solve each problem within three minutes.

3. Given that x, y, and z are positive integers, if (x_1, y_1, z_1) is a solution to the following system, determine the smallest possible value of $y_1 - x_1$. [calculator allowed] (MSHSML 2017-18 3A #3)

$$x + 2y + 3z = 54$$
$$3x + 2y + z = 54$$

Event A

Problem #3 ("textbook with a twist"; 2 points)

Try to solve each problem within three minutes.

3. Five years ago I was the age my brother is now. When I am fifty, my brother will be three less than twice the age he is now. How old am I? [calculator allowed] (MSHSML 2016-17 3A #3)

Event B

Problem #3 ("textbook with a twist"; 2 points)

Try to solve each problem within three minutes.

3. An isosceles trapezoid has the lengths of its congruent sides and smaller base equal to 1. Its diagonals and longer base have length x. Determine exactly the value of x. [calculator allowed] (MSHSML 2017-18 3B #3)

Event B

Problem #3 ("textbook with a twist"; 2 points)

Try to solve each problem within three minutes.

3. Points A, B, C, and D are located on circle O as shown in *Figure 3*. If chords $AB = BC = 3CD = 3AD$, determine exactly the ratio $AC : BD$. [calculator allowed] (MSHSML 2016-17 3B #3)

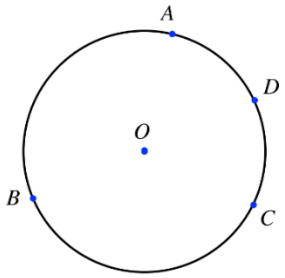

Figure 3