

Math Team
Meet 1 Events C and D Problems #1-2 Practice P2

Event C

Problem #1 (“Quickie”; 1 point)

Try to solve each problem within one minute.

1. In $\triangle ABC$, if $\cos A = -\frac{1}{\sqrt{3}}$, determine exactly the value of $\sin A$. (MSHSML 2017-18 1C #1)

1. Determine exactly the value of $\sin \theta + \cos \theta$ if $\theta = \frac{5\pi}{4}$.

(MSHSML 2016-17 1C #1)

Problem #2 (“Textbook”; 2 points)

Try to solve each problem within two minutes.

2. For x in radians, $\frac{\pi}{2} < x < \frac{3\pi}{2}$, if $\cot x = 3$, determine exactly the value of $\sec^2 x \cdot \csc x$. (MSHSML 2017-18 1C #2)

2. If $\sin x = \frac{1}{3}$ and $0 < x < \frac{\pi}{2}$, determine exactly the value of $\cos x$. (MSHSML 2016-17 1C #2)

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Meet 1 Events C and D Problems #1-2 Practice P2

Event D

Problem #1 (“Quickie”; 1 point)

Try to solve each problem within one minute.

1. Determine exactly the remainder when $x^3 - 6x^2 + 4x - 5$ is divided by $x - 3$. (MSHSML 2017-18 1D #1)

1. Determine exactly the product of the zeros of the equation $(2x - 7)^2 = 36$. (MSHSML 2016-17 1D #1)

Problem #2 (“Textbook”; 2 points)

Try to solve each problem within two minutes.

2. For what values of m does the product of the roots of $4(x - 2m)^2$ equal 11? (MSHSML 2017-18 1D #2)

2. For what value of a does the polynomial $3x^2 + ax + 10$ have 2 as a root? (MSHSML 2016-17 1D #2)