Math Team
Meet 1 Events A & B #1-2 Practice

Event A

Problem #1 ("Quickie")

Try to solve each problem within one minute.

1. Express $\dfrac{\frac{4}{3}+\frac{5}{4}}{\frac{3}{4}+\frac{4}{5}}$ as a quotient of two relatively prime integers.

MSHSML 2019-20 Meet 1 Event A #1

1. Express $1+\dfrac{\frac{1}{2}}{\frac{1}{3}+\frac{1}{4}}$ as a quotient of two relatively prime integers.

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Problem #2 ("Textbook")

Try to solve each problem within two minutes.

2. Let b be a positive integer. For how many values of b is 21_b a two-digit number in base 10 ?

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2. In May the fish population of Prime Lake was 12100. By June, the population had grown by 2100. However, in July a disease spread through the lake, killing 29% of the fish. After the disease, how many fewer fish were in the lake in July than in May?

MSHSML 2018-19 Meet 1 Event A #2

Math Team
Meet 1 Events A & B #1-2 Practice

Event B

Problem #1 ("Quickie")

Try to solve each problem within one minute.

1. In *Figure 1*, $ABCDEFGH$ is a cube. What is $m\angle EBD$? (Hint: The answer is not 90° .)

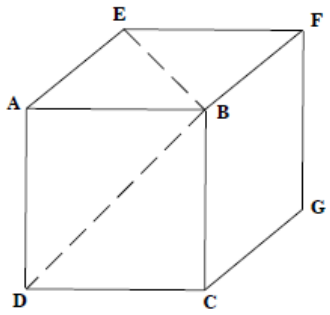

Figure 1

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1. Determine exactly the length of the hypotenuse in a right triangle whose legs have lengths of 360 and 480.

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Problem #2 ("Textbook")

Try to solve each problem within two minutes.

2. In *Figure 2*, determine exactly the sum of the angles labelled 1 through 10.

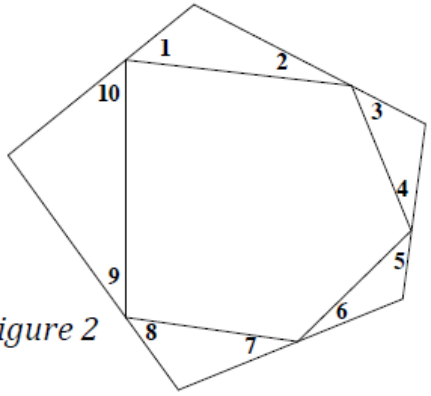

Figure 2

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2. Three non-concurrent lines are drawn in a plane. Lines l_1 and l_2 intersect at an acute angle of 50° and lines l_2 and l_3 intersect at an acute angle of 20°. Determine exactly all possible values (in degrees) for the measure of the acute angle at which lines l_1 and l_3 meet.

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