1 OLYMPIAD 1

Extra Credit

Do alone.

No Help!

1A. 3 Minutes

What is the value of the following, in simplest terms?

$$(20 \times 24 \times 28 \times 32) \div (10 \times 12 \times 14 \times 16)$$
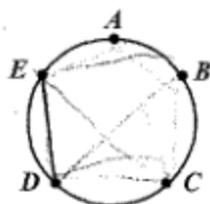
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1B. 5 Minutes

Roni starts with the number 5 and counts by 8s. This results in the sequence 5, 13, 21, 29, 37, and so on. What is the twenty-fifth number in the sequence?

1C. 6 Minutes

A line segment (such as $\overline{ED}$ as shown) that connects any two points of a circle is called a *chord of the circle*. How many different chords, including $\overline{ED}$, can be drawn using only points A, B, C, D, and E? (*Note:* $\overline{ED}$ *is the same as* $\overline{DE}$)

1D. 5 Minutes

A represents a counting number. Find the value of A if:

$$\frac{A+A}{A \times A} = \frac{1}{3}$$

1E. 6 Minutes

Ben and Jerry start with the same number of trading cards. After Ben gives 12 of his cards to Jerry, Jerry then has two times as many cards as Ben does. How many cards did Ben have at the start?

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