



The CENTRE for EDUCATION
in MATHEMATICS and COMPUTING
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2022 Canadian Team Mathematics Contest

Relay Problem #1 (Seat a)

What is the largest integer that can be placed in the box so that $\frac{\square}{11} < \frac{2}{3}$?

Relay Problem #1 (Seat b)

Let t be TNYWR.

If $6x + t = 4x - 9$, what is the value of $x + 4$?

Relay Problem #1 (Seat c)

Let t be TNYWR.

What is the area of the triangle enclosed by the x -axis, the y -axis, and the line with equation $y = tx + 6$?



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Relay Problem #2 (Seat a)

Let x be the number of prime numbers between 10 and 30.

What is the number equal to $\frac{x^2 - 4}{x + 2}$?

Relay Problem #2 (Seat b)

Let t be TNYWR.

Alida, Bono, and Cate each have some jelly beans.

The number of jelly beans that Alida and Bono have combined is $6t + 3$.

The number of jelly beans that Alida and Cate have combined is $4t + 5$.

The number of jelly beans that Bono and Cate have combined is $6t$.

How many jelly beans does Bono have?

Relay Problem #2 (Seat c)

Let t be TNYWR.

There is exactly one real number x with the property that both $x^2 - tx + 36 = 0$ and $x^2 - 8x + t = 0$.

What is the value of x ?



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Relay Problem #3 (Seat a)

A cube has edge length x . The surface area of the cube is 1014. What is the value of x ?

Relay Problem #3 (Seat b)

Let t be TNYWR.

If $\frac{5+x}{t+x} = \frac{2}{3}$, what is the value of x ?

Relay Problem #3 (Seat c)

Let t be TNYWR.

Trapezoid $ABCD$ has $\angle ADC = \angle BCD = 90^\circ$, $AD = t$, $BC = 4$, and $CD = t + 13$.
What is the length of AB ?

