



The CENTRE for EDUCATION
in MATHEMATICS and COMPUTING
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2020 Canadian Team Mathematics Contest

Relay Problem #0 (Seat a)

Evaluate $\frac{2 + 5 \times 5}{3}$.

Relay Problem #0 (Seat b)

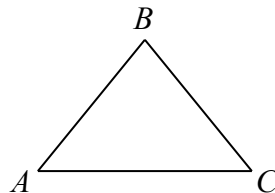
Let t be TNYWR.

What is the area of a triangle with base $2t$ and height $2t - 6$?

Relay Problem #0 (Seat c)

Let t be TNYWR.

In the diagram, $\triangle ABC$ is isosceles with $AB = BC$. If $\angle ABC = t^\circ$, what is the measure of $\angle BAC$, in degrees?





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Relay Problem #1 (Seat a)

An equilateral triangle has sides of length $x + 5$, $y + 11$, and 14. What is the value of $x + y$?

Relay Problem #1 (Seat b)

Let t be TNYWR.

Gray has t dollars consisting of \$1 and \$2 coins. If she has the same number of \$1 and \$2 coins, how many \$1 coins does she have?

Relay Problem #1 (Seat c)

Let t be TNYWR.

Elise has t boxes, each containing x apples. She gives 10% of her apples to her brother. She then gives 6 apples to her sister. After this, she has 48 apples left. What is the value of x ?



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Relay Problem #2 (Seat a)

The numbers $x + 5$, 14, x , and 5 have an average of 9. What is the value of x ?

Relay Problem #2 (Seat b)

Let t be TNYWR.

Each of the three lines having equations $x + ty + 8 = 0$, $5x - ty + 4 = 0$, and $3x - ky + 1 = 0$ passes through the same point. What is the value of k ?

Relay Problem #2 (Seat c)

Let t be TNYWR.

Quadrilateral $ABCD$ has vertices $A(0, 3)$, $B(0, k)$, $C(t, 10)$, and $D(t, 0)$, where $k > 3$ and $t > 0$. The area of quadrilateral $ABCD$ is 50 square units. What is the value of k ?



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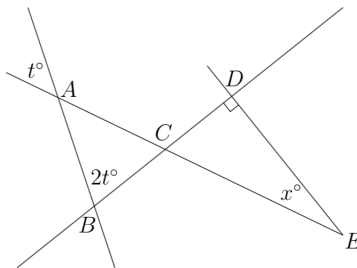
Relay Problem #3 (Seat a)

Let M be the number of multiples of 5 between 1 to 2020 inclusive and N be the number of multiples of 20 between 1 and 2020 inclusive. What is the value of $10M \div N$.

Relay Problem #3 (Seat b)

Let t be TNYWR.

Four line segments intersect in points A, B, C, D , and E , as shown. The measure of $\angle CED$ is x° . What is the value of x ?



Relay Problem #3 (Seat c)

Let t be TNYWR.

Armen paid \$190 to buy movie tickets for a group of t people, consisting of some adults and some children. Movie tickets cost \$5 for children and \$9 for adults. How many children's tickets did he buy?