

# Welcome to the Canadian Team Mathematics Contest!

The Centre for Education in Mathematics and Computing  
Faculty of Mathematics, University of Waterloo



# Exact Answers

Express answers as simplified exact numbers except where otherwise indicated. For example,  $\pi + 1$  and  $1 - \sqrt{2}$  are simplified exact numbers.



# Calculators



**No calculators are allowed during the Team event.**



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Calculating devices are allowed, but only during the Individual and Relay events. You may not use a device that has any of the following features: (i) internet access, (ii) the ability to communicate with other devices, (iii) previously stored information such as formulas, programs, notes, etc., (iv) a computer algebra system, (v) dynamic geometry software.



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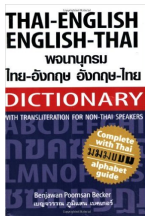


For example, you may not use a smartphone or a tablet.



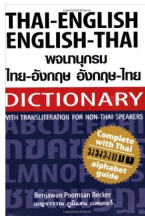
# Translation Devices

- Students may use paper dictionaries for translation between English and another language.



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- Students may not use electronic translation devices.



## Team and Individual Events

- Please ensure that all answer sheets are filled in with names.





# Team and Individual Events

- Please ensure that all answer sheets are filled in with names.
- Individual Answer Sheets are labelled with Competitor Letters G-K. Please note your assigned letter to help identify your results.

Answer Sheet for Team Questions

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

Team \_\_\_\_\_

Total \_\_\_\_\_

Answer Sheet for Individual Questions

Team \_\_\_\_\_  
Competitor Name \_\_\_\_\_  
Competitor Label **G**

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	



# Relay Event

- When instructed, coaches distribute the appropriate relay questions, face down, according to each student's seat number.



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- Students in seats 1a, 1b, 2a, 2b get a booklet of tear-off sheets.



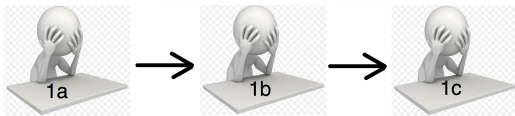
# Relay Event

- When instructed, coaches distribute the appropriate relay questions, face down, according to each student's seat number.
- Students in seats 1a, 1b, 2a, 2b get a booklet of tear-off sheets.
- Students in seats 1c, 2c get an Answer Sheet (note Relay Team 1 or 2).



## Relay Event

- As students in seats 1a, 1b, 2a and 2b complete their question, they will pass their tear-off sheet as follows:

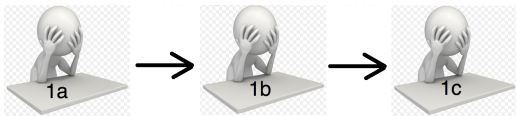


and

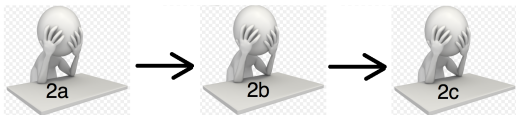


# Relay Event

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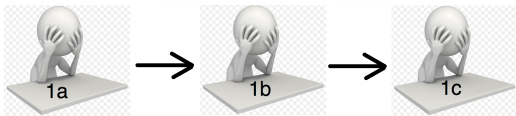


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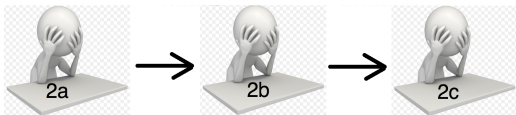


## Relay Event

- As students in seats 1a, 1b, 2a and 2b complete their question, they will pass their tear-off sheet as follows:



and



- Students pass only their final answer, not the calculations or the question.



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- Students working on b or c can begin working on their question, but will need the answer from the previous student before they can complete the question.





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- The acronym TNYWR (“the number you will receive”) indicates the answer from the previous student.  
For example:

## Relay Problem #0 (Seat 2c)

Let  $t$  be TNYWR.

The lines with equations  $y = 13$  and  $y = 3x + t$  intersect at the point  $(a, b)$ . What is the value of  $a$ ?



# Relay Event

- Students may not pass the answer sheet backwards (i.e. From b to a, or from c to b). They must accept and work with the answer they receive.



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- Students may not pass the answer sheet backwards (i.e. From b to a, or from c to b). They must accept and work with the answer they receive.
- If students in seats 1a, 1b, 2a, 2b discover an error in their own work, they can calculate a new answer and pass it along.



# Relay Event

## Answer Sheet for Relay #0, Seat 1c

Team \_\_\_\_\_

Early Answer	
Final Answer	

- At the 4-minute mark



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## Answer Sheet for Relay #0, Seat 1c

Team \_\_\_\_\_

Early Answer	
Final Answer	

- At the 4-minute mark
  - The coach should initial the answer given in the Early Answer box on both Answer Sheets (1c and 2c).



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## Answer Sheet for Relay #0, Seat 1c

Team \_\_\_\_\_

Early Answer	
Final Answer	

- At the 4-minute mark
  - The coach should initial the answer given in the Early Answer box on both Answer Sheets (1c and 2c).
  - If no answer was written, the coach should strike through the Early Answer box.



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Early Answer	
Final Answer	

- At the 4-minute mark
  - The coach should initial the answer given in the Early Answer box on both Answer Sheets (1c and 2c).
  - If no answer was written, the coach should strike through the Early Answer box.
- After the 4-minute mark, a student in seat c may mark only the Final Answer box.





# Relay Event

## Answer Sheet for Relay #0, Seat 1c

Team \_\_\_\_\_

Early Answer	
Final Answer	

- At the 4-minute mark
  - The coach should initial the answer given in the Early Answer box on both Answer Sheets (1c and 2c).
  - If no answer was written, the coach should strike through the Early Answer box.
- After the 4-minute mark, a student in seat c may mark only the Final Answer box.
- After 8 minutes, the coach will collect the completed Answer Sheets from students 1c and 2c.



# Relay Event

## Answer Sheet for Relay #0, Seat 1c

Team \_\_\_\_\_

Early Answer	
Final Answer	

- For each of seats 1c and 2c, scores are as follows according to whether the answer in each box is correct ( $\checkmark$ ), incorrect ( $\times$ ), or blank ( ).

Early Answer	$\checkmark$	$\checkmark$		$\times$	$\times$		$\checkmark$	$\times$	
Final Answer		$\checkmark$	$\checkmark$	$\checkmark$	$\times$		$\times$		$\times$
Score	10	10	5	5	0	0	0	0	0



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## Answer Sheet for Relay #0, Seat 1c

Team \_\_\_\_\_

Early Answer	
Final Answer	

- For each of seats 1c and 2c, scores are as follows according to whether the answer in each box is correct ( $\checkmark$ ), incorrect ( $\times$ ), or blank ( $\quad$ ).

Early Answer	$\checkmark$	$\checkmark$		$\times$	$\times$		$\checkmark$	$\times$	
Final Answer		$\checkmark$	$\checkmark$	$\checkmark$	$\times$		$\times$		$\times$
Score	10	10	5	5	0	0	0	0	0

- No part marks are awarded for the answers from seats a or b.



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- Relay 0 is a practice run that will not be scored.



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- Relay 0 is a practice run that will not be scored.
- It is a chance to try the logistics of the relay.
- It can be run with 2 minutes for the Early Answer and 1 more minute until the Final Answer mark.



Good Luck!

Good Luck and enjoy the contest!

