# "The Nine Chapters on the Mathematical Art" Contest (NCC) 2018 © 

## Student Name:

Please write your name on every page.

## 2 Section B

B1
My sister was 2 when I was born. I turned 10 today. How old is my sister now?

Answer to B1: $\qquad$

B2
A duck weighs 1 kg and a horse weighs 1000 kg . How much more (in kg ) do 5000 ducks weigh than 3 horses?

Answer to B2: $\qquad$

B3
I had 20 candies. Then I ate half of them. Then I bought 3 more. How many candies do I have now?

Answer to B3: $\qquad$

B4
What is the smallest whole number, such that, when you add its digits together, you get 19?

Answer to B4: $\qquad$

B5
The symbol < means "less than"; that is, the number on the left is smaller than the number on the right. For example, $5<10$ is true.

True or false: $100<98$. (Write true or false on the answer line.)
$\qquad$

## Student Name:

Please write your name on every page.

## B6

A fast-food restaurant only sells chicken nuggets in quantities of 6,12 , and 18 . Below are the prices:

| Quantity | Price |
| :--- | :--- |
| 6 chicken nuggets | $\$ 3.00$ |
| 12 chicken nuggets | $\$ 5.00$ |
| 18 chicken nuggets | $\$ 7.00$ |

What is the lowest price you could possibly pay to buy 30 chicken nuggets?

Answer to B6: $\qquad$

B7
The number of firefighters in the city of Fireloo is plotted on the following chart:


The data for 2015 is missing from the chart. Based on the trend, how many firefighters would you expect the city to have had in 2015?

Answer to B7: $\qquad$

## Student Name:

Please write your name on every page.

B8
The picture below shows a map of several cities and the one-way roads connecting them.


Currently, some trips are impossible. For example, it is not possible to get from city A to city F. The government would like to build a new one-way road so that it is possible to reach any city from any other city. From which city would you build this new road, and where would it go? (Write your answer as $X \rightarrow Y$, but replace $X$ and $Y$ with your choice of cities.)
$\qquad$

