3   Section C

C1
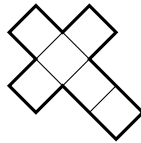
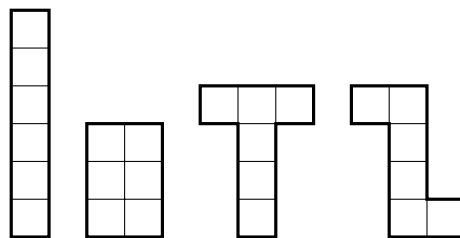How many edges does a cube have? You can use the picture below as a guide.
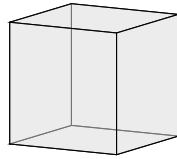
Answer to C1: _____

C2

This is an X-hexomino, which is a "net" of a cube. That means it can be folded along its edges (without making any cuts) to make a cube:

The following hexominos are called I, O, Tall T, and Tall Z, because they look like those letters. How many of these four are nets of a cube?

Answer to C2: _____

C3
A teddy bear usually costs $10, but today is on sale for 50% off. How much does the teddy bear cost today?

Answer to C3: _____

C4
Manisha has 17 chocolates that she wants to split among herself and her 3 friends. She has two requirements:

- She wants to be fair to all her 3 friends, so they have to all get the same number of chocolates.

- She really likes chocolate, so she has to have more chocolate in the end than any of her friends.

(She cannot break a chocolate into fractional pieces, so she has to distribute a whole number of chocolates to each person.) What's the maximum number of chocolates that she can give to her 3 friends in total?

Answer to C4: _____

C5
A square has 2 diagonals, and a regular pentagon has 5 diagonals, as you can see from the picture below:
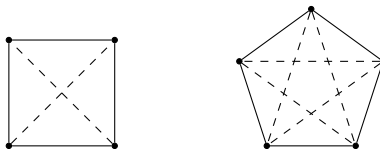
How many diagonals does a regular hexagon (6-sided shape) have?

Answer to C5: _____

Student Name: _____

C6

What is the last digit of $1 + 2 + 3 + \cdots + 30$?

Answer to C6: _____

C7
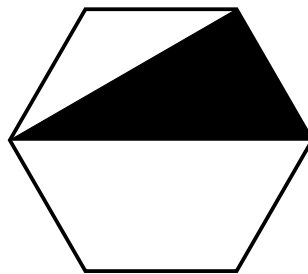
You can put exactly two $+$ symbols and exactly two $\times$ symbols in the boxes below to create an expression like $1 \times 2 + 3 \times 4 + 5$. What is the maximum possible value of this expression? (Be careful of the order of operations.)

1☐2☐3☐4☐5

Answer to C7: _____

C8

The diagram below is a regular hexagon drawn to scale. If the shaded region has area 10, then what is the area of the entire hexagon?

Answer to C8: _____