

Student Name: _____

Please write your name on *every* page.

Section B

B1

1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4, ...

If the pattern continues, what is the sum of the first 30 numbers?

Answer to B1: _____

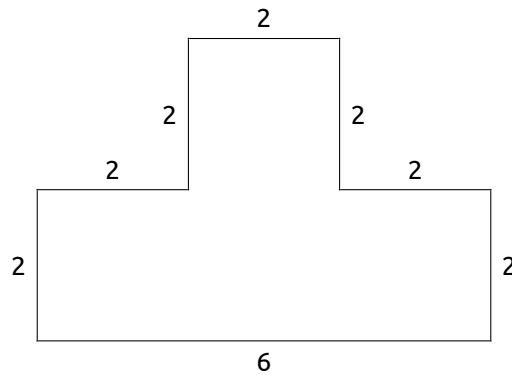
B2

In simplest form, what is $\frac{2}{5} - \frac{1}{15}$.

Answer to B2: _____

B3

Find the area of the shape below:



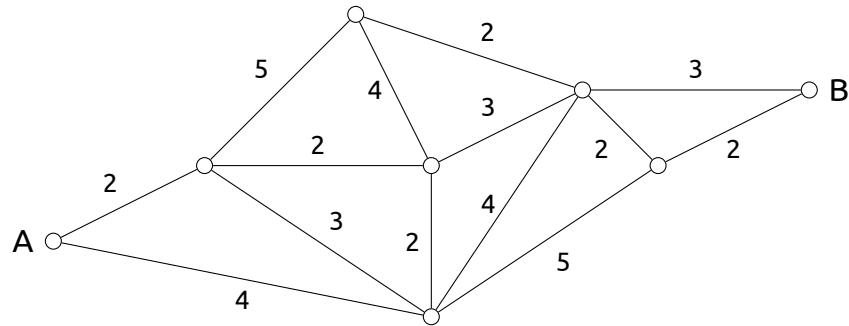
Answer to B3: _____

Student Name: _____

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B4

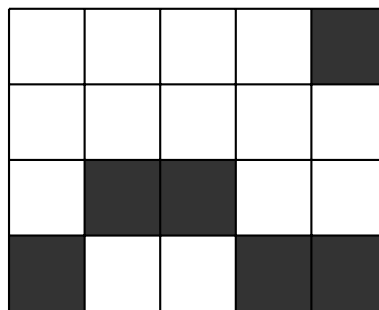
The picture below shows a map of several cities and the lengths of the roads connecting them. What is the length of the shortest path from city A to city B?



Answer to B4: _____

B5

In how many different positions can a domino be placed on the grid below without overlapping any of the shaded squares?



Answer to B5: _____

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B6

Tanya is training for a marathon. She runs 10 km each day from Monday to Friday and 20 km each day during the weekend. If Tanya starts training on a Monday, how many days will it take her to run a total of 500 km?

Answer to B6: _____

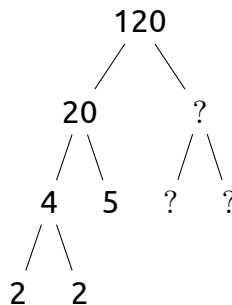
B7

There are 4 people in total. How many ways can you arrange them in a row to take a photo?

Answer to B7: _____

B8

Each node in the tree below has either two or no children. (Children are drawn below their parent and are connected by a line.) Each node is labelled with a positive whole number. Each label is the product of the labels of both its children. No label is 1. Find the sum of the three missing numbers, which are each marked by question marks (?).



Answer to B8: _____