

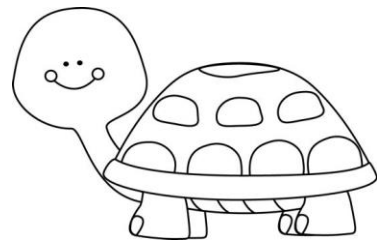
## Sample Questions – Part B

The following questions are structured in such a way they resemble the actual test.

Three turtles are in a 100m race. They are moving at different speeds:

<b>Turtle A</b>	Travels 10m every minute
<b>Turtle B</b>	Travels 1m in the first minute. It travels 2m in the second minute. It travels 4m in the third minute. Turtle B keeps travelling double the distance covered in the previous minute
<b>Turtle C</b>	Travels 5m every minute, but it has been given a head start of 40 m.

Which turtle wins the race? Which turtle comes in last? Show how you know.



Alanna and Alexis are at a department store, which is offering an additional 50% off for only one day. They see a shirt for \$50 that is in a clearance section. All the items in the clearance section are 30% off. Alexis decides to buy the shirt and she is very excited because she thinks she will get an 80% discount. Alanna disagrees and claims that total discount will be less than 80%. At the checkout, the sales attendant takes 30% of the original price and then takes an additional 50% off the sales price. Who was right? Explain your thinking.

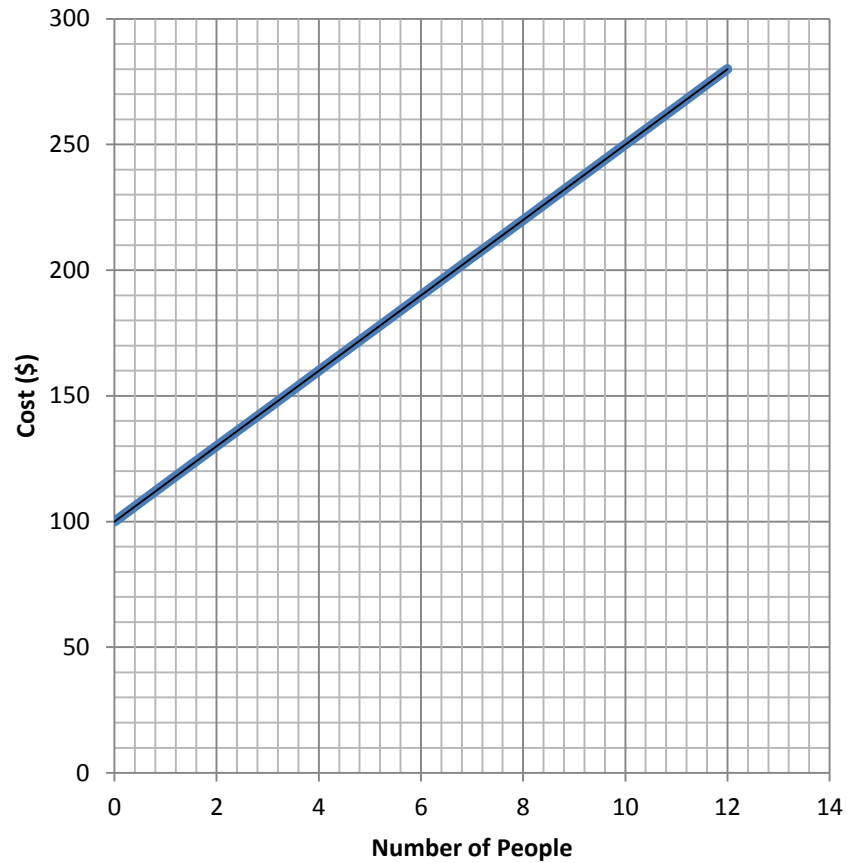


Nicole is planning an event and needs to find a banquet centre. The total cost of a banquet includes a fixed fee to rent the hall and a cost per person. Information about the total cost at two different halls is shown below. Which hall's total cost includes a lower cost per person. Justify your answer.

**Hall A**

Number of People, $n$	Total Cost (\$)
10	275
20	450
30	625

**Hall B**



During Canada Day celebrations, a firework is launched upward at an initial velocity of 49m/s, from a height of 1.5m above the ground. The height of the firework, in metres, after  $t$  seconds is modeled by the equation

$$h = -4.9t^2 + 49t + 1.5.$$

- a) What is the maximum height of the firework above the ground?
- b) Over what time interval is the height of the firework greater than 100m above the ground?