

Unit 3 Problem Set

3 marks each + 3 marks for proper mathematical form

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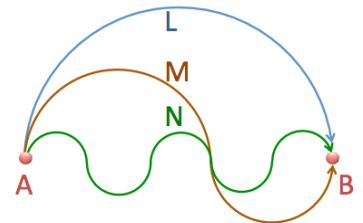
1. Determine the difference between the sum of the first 2012 even positive numbers and the sum of the first 2012 odd positive numbers.



2. Before leaving on a trip, a driver notices that the car's odometer reads 0515 km and the clock in the car reads 05:15. At the end of the trip the odometer reads 1505 km and the clock reads 15:05. Calculate the average speed of the car.



3. All three pathways are semi-circles. Which pathway from A to B is the shortest?



4. A median is a line segment drawn from the vertex of a triangle to the midpoint of the opposite side. An altitude is a line segment drawn from a vertex of a triangle to the opposite side intersecting at 90° .

In $\triangle ABC$, $\angle ACB = 90^\circ$. An altitude is drawn in $\triangle ABC$ from C to AB intersecting at D . A median is drawn in $\triangle ADC$ from A meeting DC at M . The length of the median AM is 13 and AD is 12.

Determine the length of BD .

