

MTH – 4108-1 Quadratic Functions Quiz #5

Name:

Date:

1. A freight train must travel a distance of 534 km on its run. If an 18-wheeler were to take the same route, but travel 70 km/h faster than the freight train, the travel time could be reduced by 9.2 hours. What is the speed of the freight train? Round off your answer to the nearest unit.

Clearly show all your work. (10 marks)

2. In a factory, 150-litre containers are placed on a conveyor belt and filled with liquid as they pass under a tap one by one. If the flow from the tap was increased by 10 litres per minute, it would take 30 fewer seconds to fill each container. What is the flow from the tap to the nearest litre? Clearly show all your work. (10 marks)

3. Sue measured the area of the front of a picture frame. She found that it measured 514 cm^2 . Given that the frame is 13 cm longer than it is wide, determine the second-degree equation of the form $ax^2 + bx + c = 0$ that describes this situation. (5 marks)

4. The square of a number increased by twice that number is equal to 168. Determine the second-degree equation of the form $ax^2 + bx + c = 0$ that describes this situation. (5 marks)