

Name : \_\_\_\_\_

## Joint and Combined Variation

Sheet 3

Round your answer to two decimal places.

- 1) The IQ of a person varies directly as a person's mental age and inversely as that person's chronological age. Eric and Sam take up an online IQ test. Fifteen year old Eric has a mental age of 15 and secures an IQ of 100. Sam has a mental age of 24 and is chronologically 20 years old. Determine his IQ.
- \_\_\_\_\_

- 2) The time taken to process a shipment in a retail organization varies directly with the number of items in the shipment and inversely with the number of workers. A group of 15 workers take 8 hours to complete a shipment of 24 items. How long will it take 40 workers to wrap up a shipment of 24 items?
- \_\_\_\_\_

- 3) The volume of a pyramid varies directly with the square of its base length and inversely with its height. A pyramid that is 17 feet high has a base length of 10 feet. Find the volume of a pyramid that is 25 feet high and has a base length of 12 feet.
- \_\_\_\_\_

- 4) A paediatrician prescribes a dosage of medicine that varies directly with the weight of the child and inversely with the number of doses. A child who weighed 40 pounds. The doctor prescribes 100 mg of medicine 4 times a day. How many mg of medicine would be administered 4 times a day to a child who weighed 60 pounds?
- \_\_\_\_\_

- 5) A summer camp for scouts was held in Pocono Mountains. A group of 8 scouts pitched 16 tents in 18 minutes. The time taken to pitch a tent varies directly with number of tents and inversely with number of scouts. How long will it take a troop of 36 scouts to set up a total of 144 tents?
- \_\_\_\_\_

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