12-3 Variation

Direct: $y = k \cdot x$ Inverse: $y = \dfrac{k}{x}$ Joint: $y = k \cdot x \cdot z$

_____ 1.   y varies directly as x. When y = 20, x = 2. Find k.

_____ 2.   y varies inversely as x. When y = 20, x = 2. Find k.

_____ 3.   y varies jointly as x. If y = 40, x = 4, and z = 2 Find k.

_____ 4.   y varies directly as x. When y = 100, x = 4. Find y when x = 20.

_____ 5.   y varies inversely as x. When y = 10, x = 5. Find y when x = 2.

_____ 6.   y varies jointly as x and z. When y = 20, x = 4 and z = 3. Find y if
x = 2 and z = 3.

_____ 7.   y varies directly as x. When y = 80, x = 4. Find y when x = 6.

_____ 8.   y varies directly as x. When y = 5, x = 5. Find y when x = 12.

_____ 9.   y varies jointly as x and z. When y = 40, x = 4 and z = 2. Find y if
x = 2 and z = 3.

_____ 10. y varies inversely as x. When y = 40, x = 10. Find y when x = 2.

_____ 11. Simple interest varies jointly as principal and time. If $1000 is put in a bank
account for 5 years and earns interest of $300, how much interest would be
earned on $4000 invested for 6 years?

_____ 12. The population of a certain fungus varies directly with the temperature. If the
population is 1000 when the temperature is 40ºF, what is the population when
the temperature is 50ºF?

_____ 13. The time it takes for a company to clean a house varies inversely with the
number of workers. If it takes 2 workers 14 hours to clean a house, how long
will it take 6 workers?