

Variation

1. Variable y varies directly with x , and $x = 10$ when $y = 36$. Find y when $x = 4$.
2. Variable w varies inversely with t , and $t = 2$ when $w = 4.7$. Find w when $t = 3.7$.
3. Variable y varies directly with x and inversely with the square of w , and $y = 3$ when $x = 2$ and $w = 4$. Find y when $x = 1.5$ and $w = 6$.
4. The energy E available daily from a solar collector varies directly as the percentage p of sunshine during the day. If the collector provides 1200 kJ (kilojoules) for 75% sunshine, how much does it provide for a day in which there is 35% sunshine?
5. The frequency f of a radio wave varies inversely as its wavelength λ . An FM radio wave with a frequency of 90.9 Mhz (megahertz) has a wavelength of 3.29 m (meters). What is the frequency of a radio wave which has a wavelength of 2.87 m?