

71 (a) Graph $Y_1 = 310 \sin(120\pi X)$ in $[0, 1/15, 1/60]$ by $[-400, 400, 100]$. The graph is sinusoidal and varies between -310 volts and 310 volts. The voltage is changing direction. See *Figure 71*.

(b) $V\left(\frac{1}{120}\right) = 310 \sin\left(120\pi \cdot \frac{1}{120}\right) = 310 \sin(\pi) = 310(0) = 0$ After $1/120$ second the voltage is 0 volts.

(c) The maximum voltage is 310 volts. The root mean square voltage is $\frac{310}{\sqrt{2}} \approx 219$ volts.

Note that the common electrical rating for electric ranges and ovens is 220 volts.

$[0, 1/15, 1/60]$ by $[-400, 400, 100]$

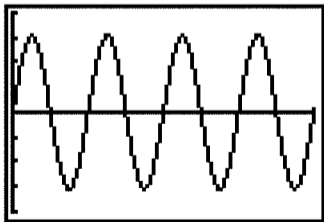


Figure 71