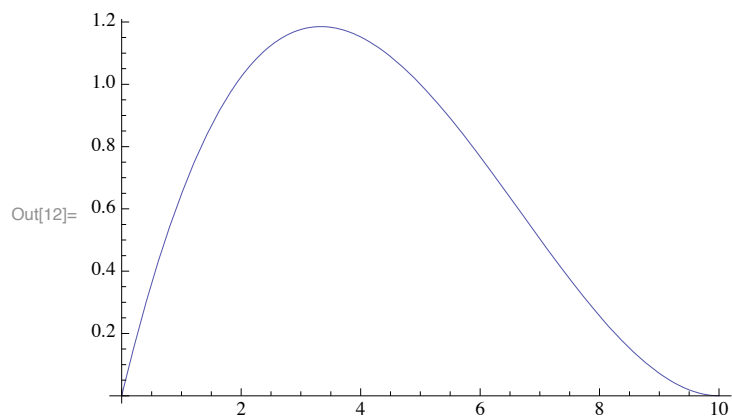


In[11]:= **f = 8 x (10 - x) ^ 2 / 10 ^ 3**
Plot[f, {x, 0, 10}]

Out[11]= $\frac{1}{125} (10 - x)^2 x$



In[7]:= **rawc = $\frac{2 \int_0^{10} (f \text{Sin}[\frac{n \pi x}{10}]) dx}{10}$**

Out[7]= $\frac{32 (2 n \pi + n \pi \text{Cos}[n \pi] - 3 \text{Sin}[n \pi])}{n^4 \pi^4}$

In[8]:= **c = $\frac{32 (2 n \pi + n \pi (-1)^n)}{n^4 \pi^4}$**

Out[8]= $\frac{32 (2 n \pi + (-1)^n n \pi)}{n^4 \pi^4}$

$$\text{In}[37]:= \mathbf{u} = \sum_{n=1}^{20} \left(\mathbf{c} \sin\left[\frac{n\pi x}{10}\right] \cos\left[\frac{n\pi t}{10}\right] \right);$$

Plot3D[**u**, {**x**, 0, 10}, {**t**, 0, 40}]

Animate[**Plot**[**u** /. **t** → **currt**, {**x**, 0, 10}, **PlotRange** → {-1.5, 1.5}], {**currt**, 0, 40}]

