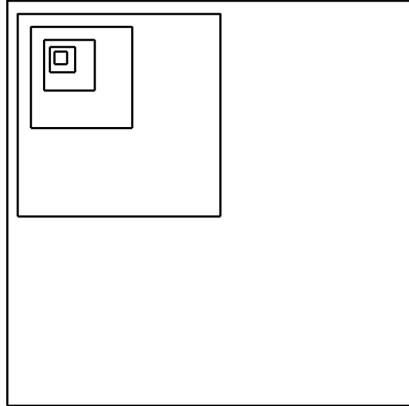


PES, Section 1.1
Introduction to Embedded Systems

1. Is the following picture an accurate depiction of Moore's Law? Explain your answer



The picture is inaccurate.

According to Moore's Law, the transistor density doubles every 18 months. In other words, the area of each transistor shrinks by one-half.

In the picture above, the X- and Y-dimensions of the transistor (length and width) are both shortened by one-half. If the area of the original transistor was XY , then the area after one generation of Moore's Law (18 months) is $(\frac{1}{2}X)(\frac{1}{2}Y) = \frac{1}{4}XY$, which is faster shrinkage than Moore's Law.