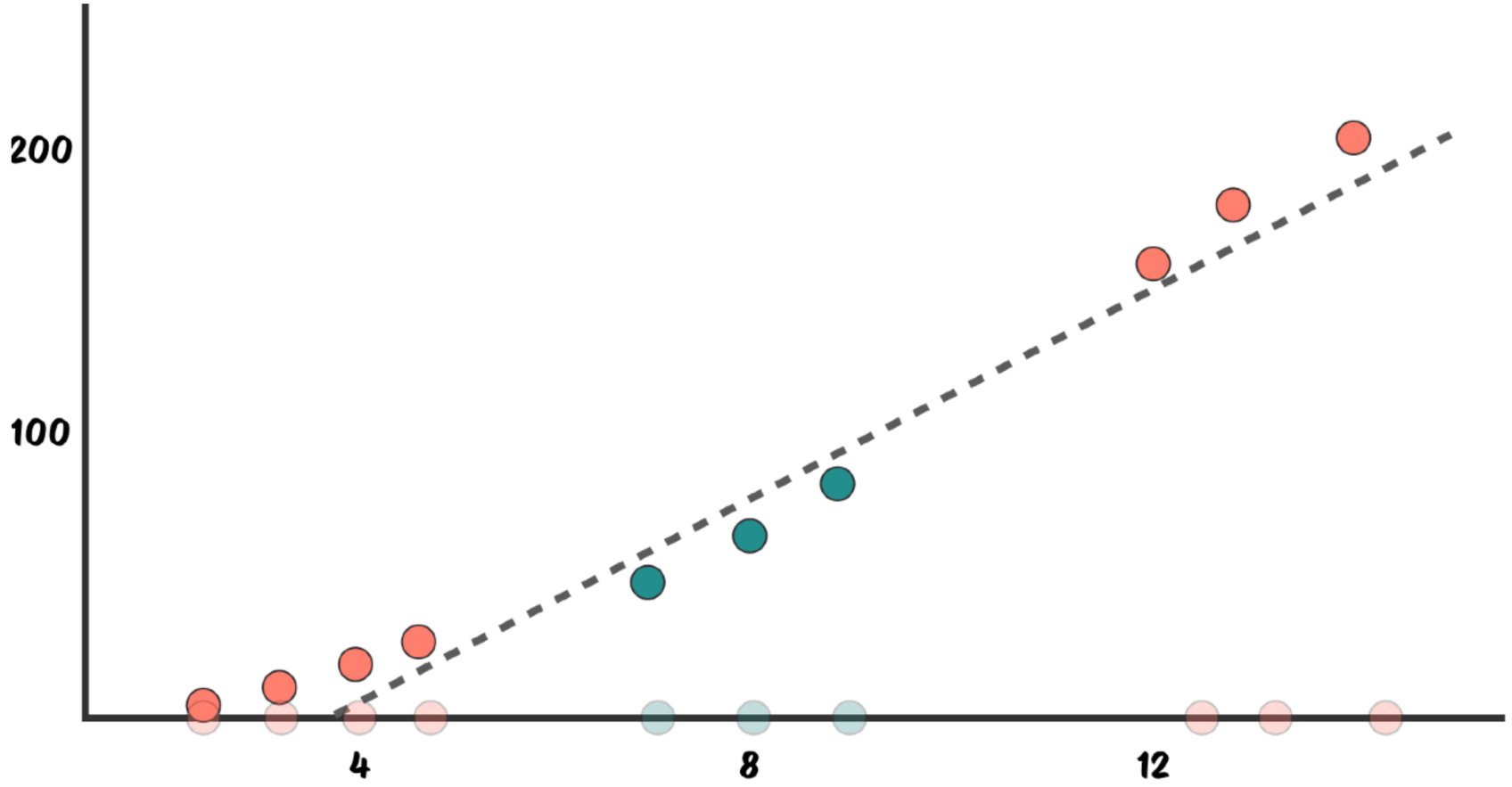
The Polynomial Kernel

$$(a, a^2, \frac{1}{2}) \cdot (b, b^2, \frac{1}{2})$$



The Polynomial Kernel

A function that computes the relationship between vectors in multiple dimensions
(without actually having to calculate the coordinates for those dimensions)

example: $a = 4,\ b = 8$

plug values into the Kernel to get
the high-dimensional relationship

$$(a \cdot b + \frac{1}{2})^2 = (16 \cdot 64 \cdot \frac{1}{2}) = 512$$