

1. Find the linear approximation of $y = \sqrt[3]{x}$ at $x = 8$.

Use this to approximate $\sqrt[3]{8.2}$ and $\sqrt[3]{7.9}$.

2. Find the linear approximation of $y = \cos(x)$ at $x = \frac{\pi}{2}$.

Use this to approximate $\cos(1.5)$.