Using a Calculator for Scaling Wing Area: Toothless vs. Bald Eagle

Given:

Animal	Mass (kg)	Wing Area (m²)
Bald Eagle	6	0.7
Toothless	1000	?

Formula: Toothless Wing Area $$\text{Toothless Wing Area} = 0.7 \times \left(\frac{1000}{6}\right)^{2/3}$$

Step-by-Step Instructions

Step 1: Divide the Masses

- Enter: `1000 ÷ 6`
- Press `=`
- Result: **166.67**

Step 2: Raise to the Power of 2/3

On a scientific calculator:

- Enter: `166.67`
- Press the exponent key (`^` or x^y)
- Enter: `0.6667` (this is 2/3)
- Press `=`
- Result: **≈ 30.24**

On a phone calculator:

- Rotate your phone to landscape mode (this shows advanced keys)
- Enter: `166.67`

- Tap the `^` button
- Enter: `0.6667`
- Press `=`
- Result: **≈ 30.24**

Step 3: Multiply by the Bald Eagle’s Wing Area

- Enter: `0.7 × 30.24`
- Press `=`
- Result: **21.17**

Final Answer: Toothless' Wing Area ≈ 21.17 m²