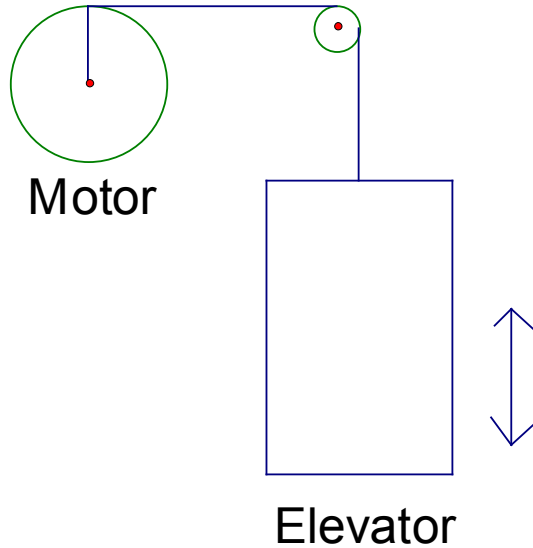


Angular Velocity

Problem 1)

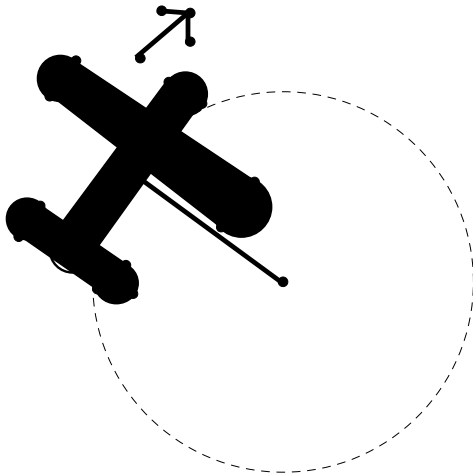


The motor cylinder is 1 meter in diameter.

The motor can move the elevator up at 8 RPM or down at 18 RPM

What are the up and down speeds of the elevator?

Problem 2)

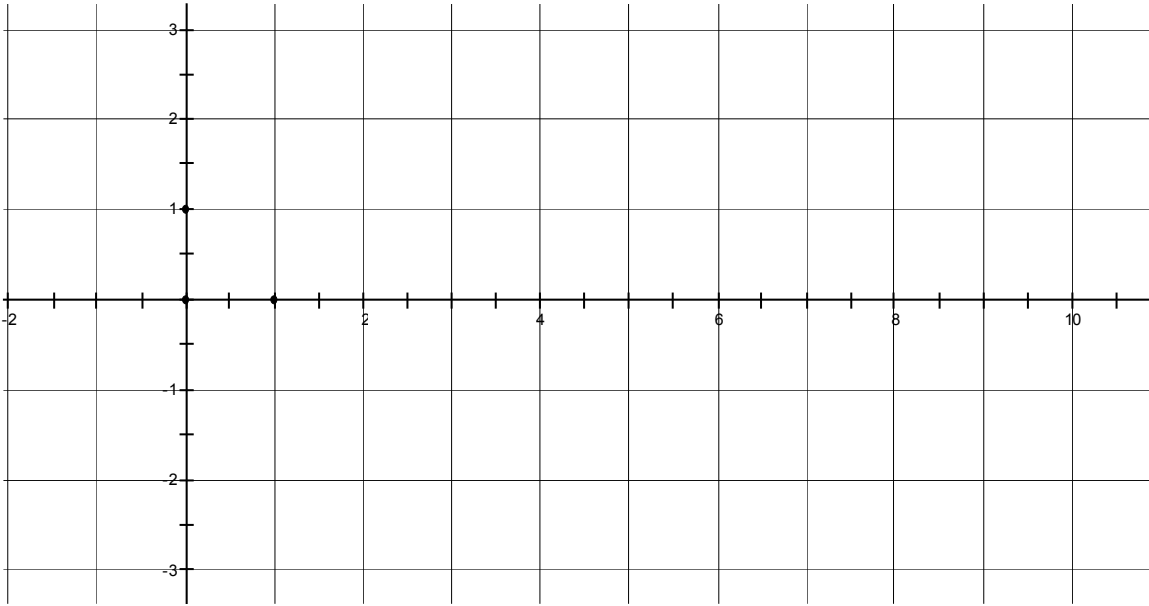


A toy Airplane flies at 4meters/second. It is held by a string that is 5 meters in length.  
What is it's angular velocity in radians/sec and RPM?

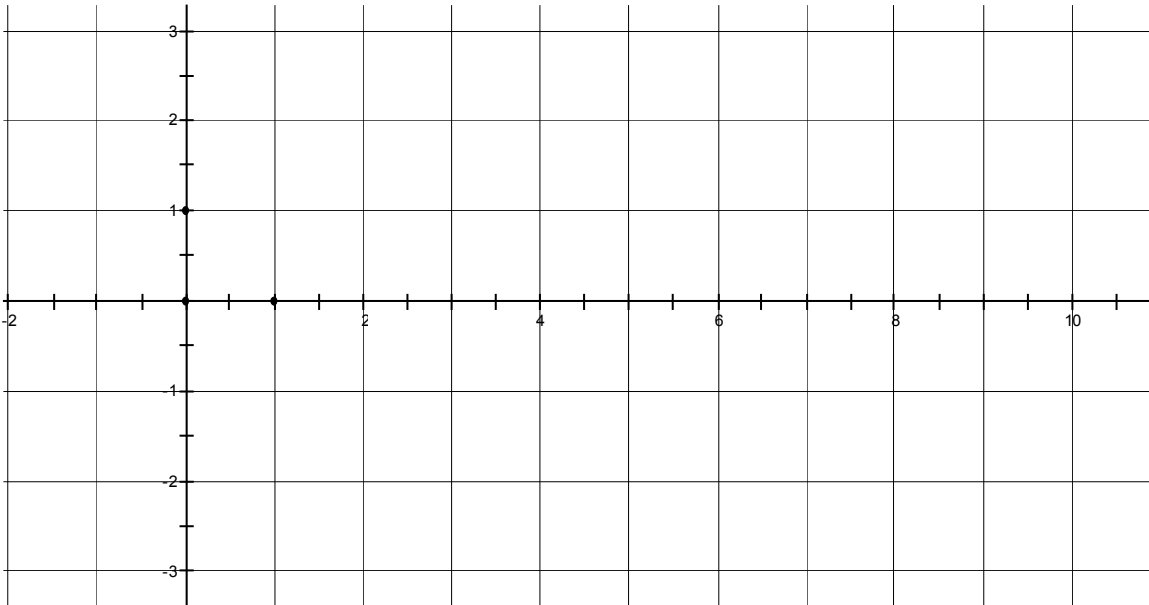
## Graphing Sine and Cosine Functions

Graph the following functions by hand, then check your answers on your calculator.

3)  $f(\theta) = 2 \sin\left(2\theta - \frac{\pi}{2}\right) - 1$



4)  $f(\theta) = -\cos\left(\frac{\theta}{2} + 1\right)$



5) An Even function is a function where  $f(-\theta) = f(\theta)$

An Odd function is a function where  $f(-\theta) = -f(\theta)$

Explain whether sine and cosine are even or odd functions.

Do all functions have to be even or odd?