

Calculus

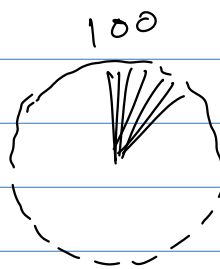
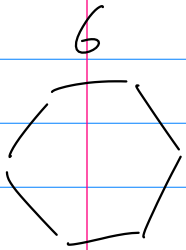
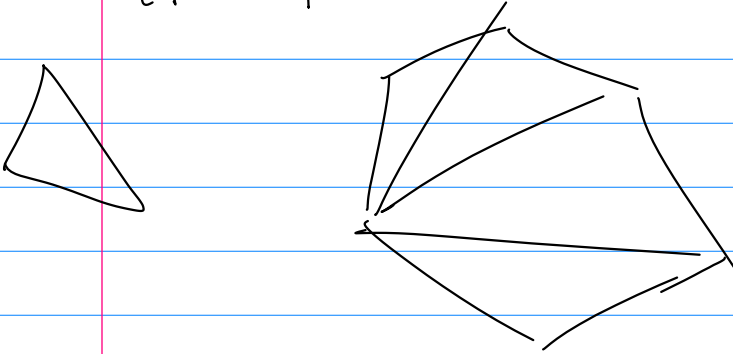
DYNAMIC

$$x + 3 = 5$$

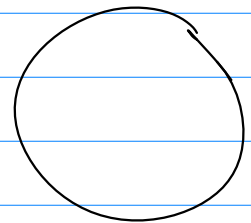
$$\underline{x = 2}$$

Getting closer to

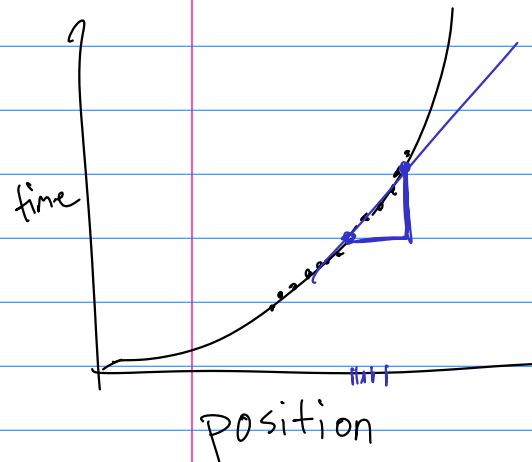
Area problem



10000?



$$\approx \frac{\pi}{3.141}$$



$$\frac{0}{0} = ??$$

seq: $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \frac{1}{32}, \frac{1}{64} \dots$

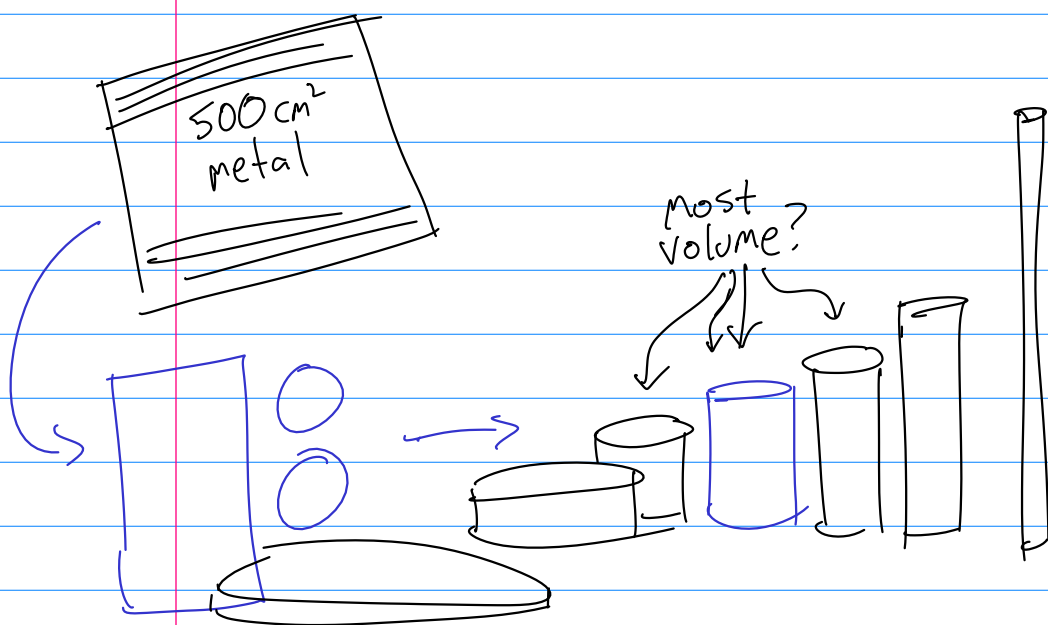
series: $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \frac{1}{64} \dots$

approaching

0

1

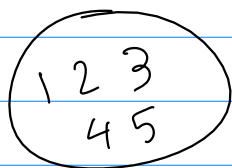
Optimization



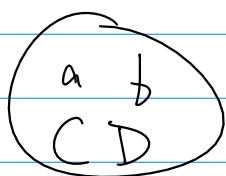
1.1 Determine whether a relation (verbal, numeric, visual, algebraic) is a function.

Set: A collection of things.

Numbers



Letters



States



etc.

Sets

\mathbb{N} : Natural numbers $\{1, 2, 3, \dots\}$

\mathbb{Z} : Integers $\{-3, -2, -1, 0, 1, 2, 3, \dots\}$

\mathbb{Q} : Rational numbers $\{\frac{p}{q}\}$ where p, q are integers and $q \neq 0$

\mathbb{R} : Real numbers {rational & irrational numbers}



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