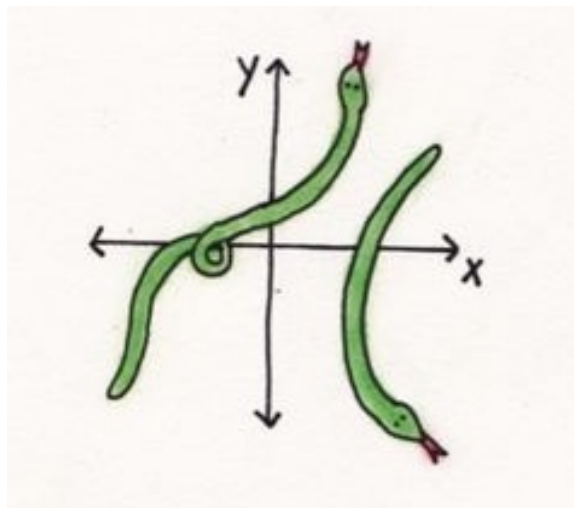


- 1) (1 pt) Perform the indicated floating point approximations.
- What is  $x = 0.004567945$  rounded to 4 digits?
  - What is  $x = 0.004567945$  chopped to 3 digits?
  - What is  $x = 1247.63378$  rounded to 7 digits?
  - What is  $x = 1247.63378$  chopped to 3 digits?
- 2) (2 pts) John is performing floating point computations by hand using 4 digits with rounding. He computes the relative error in his result and obtains

$$\text{Relative Error} = 3.927 \times 10^{-8}.$$

Explain why John's relative error can't possibly be correct.

- 3) (1 pt) If you compute the volume of a cylinder of radius  $z$  and height  $a$ , what do you get?
- 4) (1 pt) What is  $\frac{\sin(\text{gerine})}{\cos(\text{gerine})}$  ?
- 5) (1 pt) What is  $\int \text{cabin } d(\text{cabin})$  ?
- 6) (1 pt) Explain how someone unfamiliar with mathematics could conclude that  $\frac{1}{n} \sin(x) = 6$ ?
- 7) (1 pt) What movie is implied in the image below?



- 8) (1 pt) Explain the error in the sequence of steps below.

$$\begin{aligned} x^2 - x^2 &= x^2 - x^2 \\ x(x - x) &= (x + x)(x - x) \\ x &= 2x \\ 1 &= 2 \end{aligned}$$