(1) Degrees and Radians:
   (a) Convert $90^\circ$ to radians.
       Answer: $\frac{\pi}{2}$ rad
   (b) Convert $\frac{\pi}{3}$ rad to degrees.
       Answer: $60^\circ$

(2) Find the derivatives of $f(x)$:
   (a) $f(x) = \sin(e^x)$
       Answer: $\cos(e^x)e^x$
   (b) $f(x) = \cos(x^2)$
       Answer: $-2x\sin(x^2)$
   (c) $f(x) = \tan^2(e^x)$
       Answer: $2e^x\tan(e^x)\sec^2(e^x)$
   (d) $f(x) = \cot^4(x^2)$
       Answer: $-8x\cot^3(x^2)\csc^2(x^2)$

(3) A soft-drink company has revenues from sales over a 2-year period as given approximately by

$R(t) = 4 - 3\cos\left(\frac{\pi t}{6}\right) \quad 0 \leq t \leq 24$

where $R(t)$ is revenue (in millions of dollars) for a month of sales $t$ months after February 1.

   (a) What is the rate of change of revenue $t$ months after February 1?
      Answer: $R'(t) = \frac{\pi}{2} \sin\left(\frac{\pi t}{6}\right)$
   (b) What is the rate of change of revenue 6 months after February 1?
      Answer: 0
   (c) Find all local maxima and minima for $0 < t < 24$.
      Answer: local maximum is 7, obtained at $t = 6, 18$; local minimum is 1, obtained at $t = 12$
   (d) Find the absolute maxima and minima for $0 < t < 24$.
      Answer: absolute maximum is 7, absolute minimum is 1.