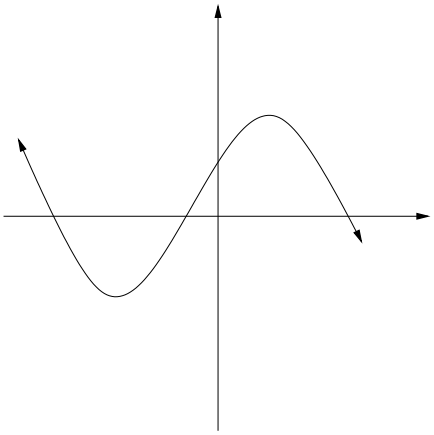
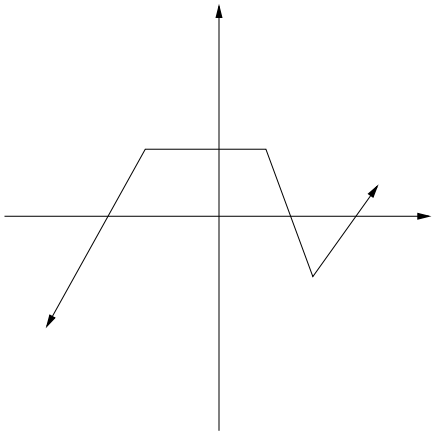
Quiz One Solutions

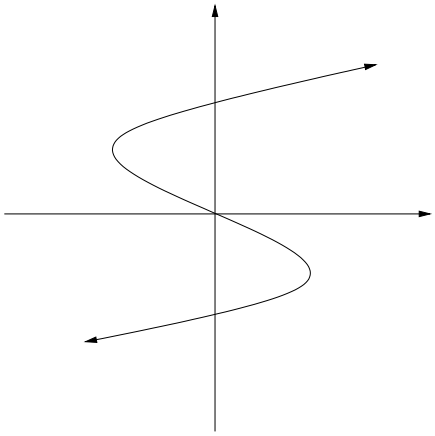
MATH 120A SPRING, 2002

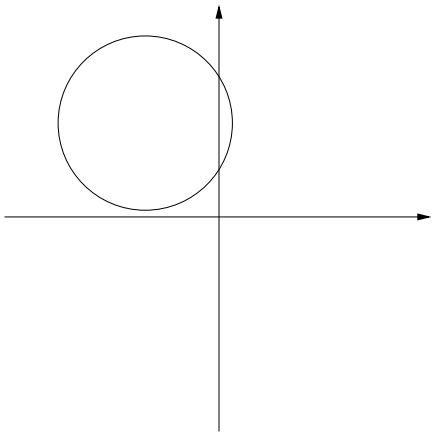
1 These are functions:





These are *not* graphs of functions, as they fail the vertical line test:





2 The point A has coordinates $(-10,-14)$ (in feet), and the point B has coordinates $(0,6)$, so the distance from A to B is given by

$$d = \sqrt{(-10-0)^2+(-14-6)^2} = \sqrt{(-10)^2+(-20)^2} = \sqrt{500} = 10\sqrt{5} \approx 22.36\text{feet}.$$

3 The golf ball travels at 3 feet per second, so it covers $10\sqrt{5}$ feet in $10\sqrt{5}/3 \approx 7.45$ seconds.

4 The circle has center $(0,0)$ and radius 6, so it has equation $x^2+y^2=36$. The line passes through $A=(-10,-14)$ and $B=(0,6)$, so it has equation $y=2x+6$. These two curves intersect when

$$x^2+(2x+6)^2=6^2,$$

or when $x=0$ (at B) or when $x=-24/5=-4.8$. Thus the point C has coordinates $(x,y)=(-4.8,-3.6)$.