MAC1105 College Algebra
3.1 Practice Problems

1. Determine if the relation is a function and find the domain and range given the set of points.

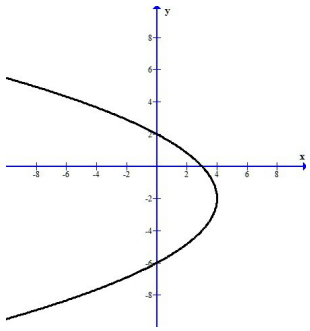
a. $\{(2,4),(4,-2),(5,8),(-4,7),(7,-8)\}$ b. $\{(1,-2),(-1,8),(1,4),(3,-5),(-4,1)\}$

2. Determine if the following equations represent functions.

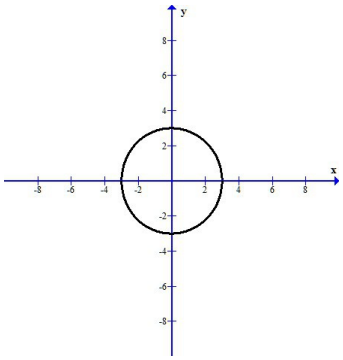
a. $y=x^2+4$ b. $y=|x+4|$ c. $x^2+y^2=9$ d. $3x-4y=6$

3. Determine if the following graphs represent functions.

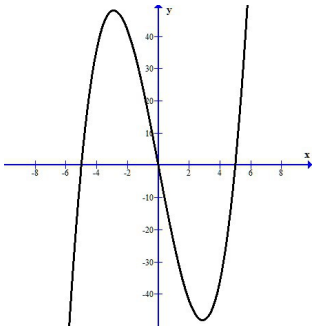
a.



b.



c.



4. Find the domain of the following functions. Write the domain in interval notation.

a. $f(x)=2x^2-3x+9$ b. $g(x)=\dfrac{2x+3}{x-2}$ c. $h(x)=\sqrt{x+5}$ d. $h(x)=\sqrt[3]{2-x}$

5. Let $f(x)=x^2+3x-5$ and find the following.

a. $f(5)$

b. $f(-2)$

c. $f(a+5)$

d. $f(-x)$

e. $f(x+h)$

f. $f(x+h)-f(x)$

g. $\dfrac{f(x+h)-f(x)}{h}$