

3.1 Practice Problems

1. Find the domain and range given the set of points. $\{(2,4), (4,-2), (5,8), (-4,7), (7,-8)\}$

2. Determine if the relation given in #1 is a function.

3. Determine if the following equations represent functions.

a. $y=x^2+4$

b. $y=|x+4|$

c. $x^2+y^2=16$

4. 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) $\frac{f(x+h)-f(x)}{h}$

5. Find the domain of the following functions.

a. $f(x) = 2x^2 - 3x + 9$

b. $g(x) = \frac{2x+3}{x-2}$

c. $h(x) = \sqrt{x+5}$

d. $g(x) = \frac{\sqrt{x+1}}{x-9}$

e. $h(x) = \frac{3}{x^2-3x-4}$

f. $f(x) = \sqrt{2-3x}$

6. Find $f+g$, $f-g$, fg , and $\frac{f}{g}$ if $f(x) = x^2 - 25$ and $g(x) = x^2 + 2x - 15$.

Determine the domain for each function.