Practice Sheet #1

Domain & Range

Problems :

Find out the domain and range of the following functions:

1. $f(x)=\dfrac{1}{x-3}$

2. $f(x)=\sqrt{x^2-9}$

3. $f(x)=\sqrt{9-x^2}$

4. $f(x)=\sqrt{x^2-5x+6}$

5. $f(x)=\dfrac{x}{|x|}$

6. $f(x)=x^3+2$

7. $f(x)=\begin{cases} x+2 & ,x\le -1 \\ x^3 & ,|x|<1 \\ -x+3 & ,x\ge 1 \end{cases}$

8. $f(x)=\begin{cases} \dfrac{x^2-1}{x-1} & ,x\neq 1 \\ 2 & ,x=1 \end{cases}$

9. $f(x)=3Sinx$

10. $f(x)=-\sqrt{x^2-7x+10}$

11. $f(x)=\dfrac{2x}{x-4}$

12. $f(x)=\dfrac{1}{5x+7}$

13. $f(x)=\ln(x^2+1)$

14. $f(x)=\begin{cases} x^2 & ,x<0 \\ x & ,0\le x\le 1 \\ \dfrac{1}{x} & ,x>1 \end{cases}$

15. $f(x)=\begin{cases} 2x+6 & ,-3\le x\le 0 \\ 6 & ,0<x<2 \\ 2x-6 & ,2\le x\le 5 \end{cases}$

16. $f(x)=Sin^2x$

17. $f(x)=e^x$

18. $f(x)=Logx$

19. $f(x)=\sqrt{2x+4}$