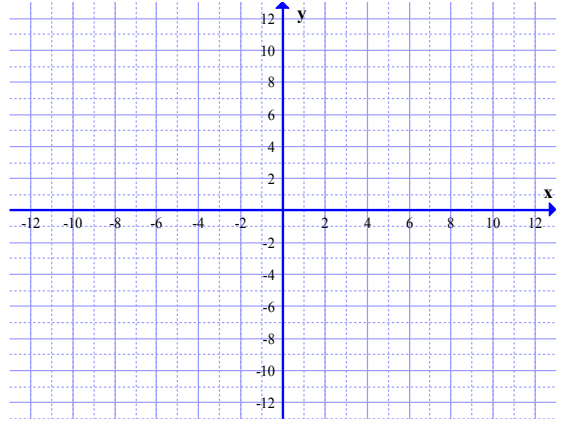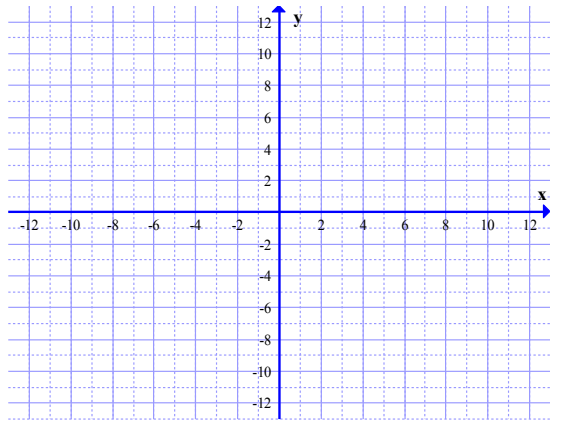6.3 Practice Problems

1. Graph the following exponential functions. State the domain and range of each function
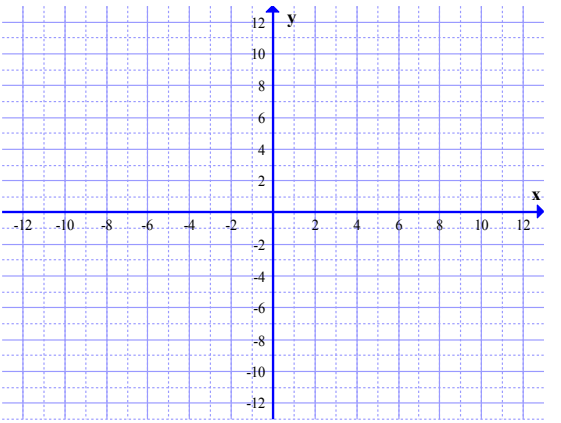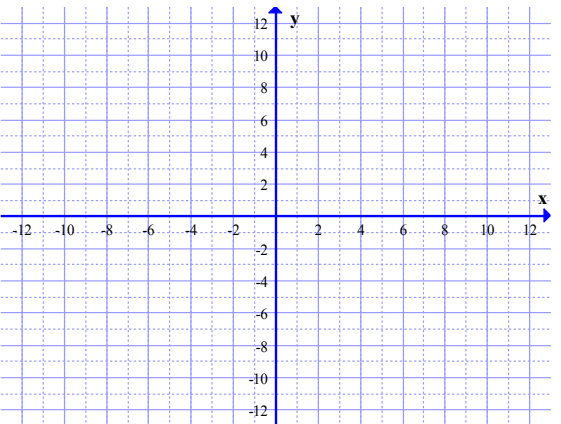
a) $f(x)=5^x-2$

b) $g(x)=\left(\dfrac{1}{3}\right)^{x+3}$

c) $h(x)=-5^x$

d) $f(x)=e^{-x}$

2. $4^{2x+4}=64$

3. $8^{x+3}=4^{x-2}$

4. $3^{2x+1}=\dfrac{1}{27}$

5. $5^{x^2}=25^x$

6. Determine whether the function given by the table is linear, exponential, or neither. If the function is linear, find a linear function that models the data; if it is exponential, find an exponential function that models the data.

x	y	ARC	Ratio
-2	$-\dfrac{4}{9}$		
-1	$-\dfrac{4}{3}$		
0	-4		
1	-12		
2	-36		

x	y	ARC	Ratio
-2	10		
-1	8		
0	6		
1	4		
2	2		