Practice Quiz – 3.1,3
Geometric Sequences

Write a recursive and explicit equation for the following.

1. John collects coins. He started with 8 coins. Each year he triples his collection.

   Recursive: _____

   Explicit: _____

2. 5, 50, 500, …

   Recursive: _____

   Explicit: _____

3. -360, -60, -10, …

   Recursive: _____

   Explicit:_____

4.

x	-18	-17	-16
f(x)	448	56	7

   Recursive : _____

   Explicit _____

5.

x	8	9	10
f(x)	3	60	1200

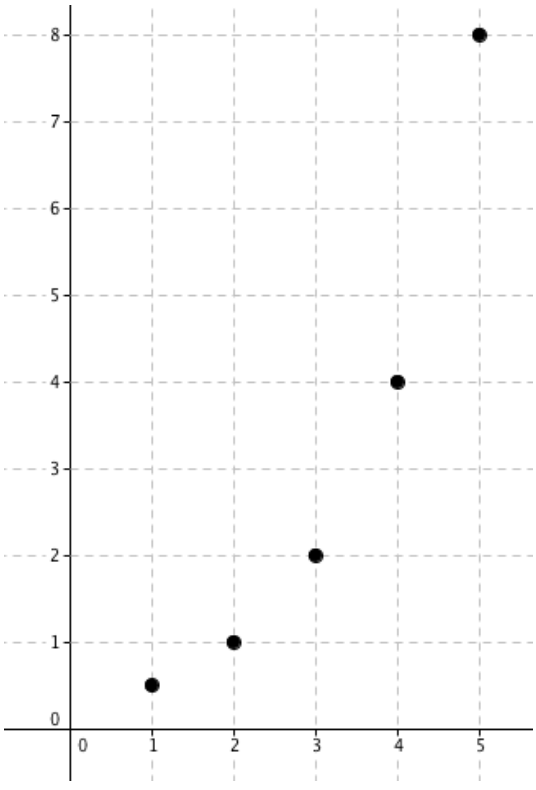
   Recursive:

   _____

   Explicit:

   _____

6. Use the picture on the right to answer #6



   Recursive:

   _____

   Explicit:

   _____

ANSWERS:

1. **Recursive:** $f(0)=8 \quad f(x)=f(x-1)\cdot 3$
   Explicit: $f(x)=8(3)^{x}$
2. **Recursive:** $f(1)=5 \quad f(x)=f(x-1)\cdot 10$
   Explicit: $f(x)=5(10)^{x-1}$
3. **Recursive:** $f(1)=-360 \quad f(x)=f(x-1)\cdot \frac{1}{6}$
   Explicit: $f(x)=-360\left(\frac{1}{6}\right)^{x-1}$
4. **Recursive:** $f(-18)=448 \quad f(x)=f(x-1)\cdot \frac{1}{8}$
   Explicit: $f(x)=448\left(\frac{1}{8}\right)^{x+18}$
5. **Recursive:** $f(8)=3 \quad f(x)=f(x-1)\cdot 20$
   Explicit: $f(x)=3(20)^{x-8}$
6. **Recursive:** $f(1)=\frac{1}{2} \quad f(x)=f(x-1)\cdot 2$
   Explicit: $f(x)=\frac{1}{2}(2)^{x-1}$