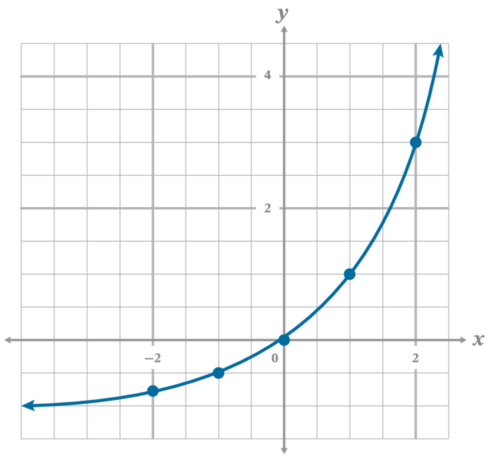
1.

x	$h(x)$	work
−2	$-\frac{3}{4}$	$2^{-2} - 1 = \frac{1}{2^2} - 1 = \frac{1}{4} - 1$
−1	$-\frac{1}{2}$	$2^{-1} - 1 = \frac{1}{2^1} - 1 = \frac{1}{2} - 1$
0	0	$2^0 - 1 = 1 - 1$
1	1	$2^1 - 1 = 2 - 1$
2	3	$2^2 - 1 = 4 - 1$

2.



3.
$a = 1$, $b = 2$, $k = -1$

4.
domain: all real numbers
range: $y > -1$

5.
$a = 1{,}500$, $r = 5\%$, $t = 3$
The common ratio is 0.95 and represents an exponential decay function.

$$1 - r = 0.95$$
$$-r = -0.05$$
$$r = 0.05 = 5\%$$

6.
Exponential Function; $b = \frac{36}{6} = 6$

7.
Exponential function; $b = \frac{0.2}{1} = \frac{1}{5}$

8.
a = 1,850, r = 30% = 0.3, t = 4,

solve for y:

$y = 1,850(1 - 0.3)^4$

$y = 1,850\,(0.7)^4$

$y = 444.19$

After four years Brooks' computer will be worth $444.19.

9.
a = 1,500, r = 8% = 0.08, t = 10

solve for y:

$y = 1,500(1 + 0.08)^{10}$

$y = 3,238.39$

After 10 years, the stock will be worth $3,238.39.

10.
y = 1,225,000, r = 9.5% = 0.095, t = 20, solve for P.

$1,225,000 = P(1 + 0.95)^{20}$

$1,225,000 = P(1.095)^{20}$

$P = \frac{1,225,000}{(1.095)^{20}}$

$P = 199,459.03$

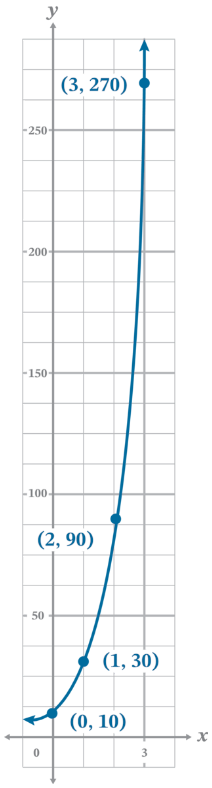
$P \approx 200,000$

The initial amount of money invested was approximately $200,000.

11.

h	0	1	2	3	4	5	6
b	10	30	90	270	810	2,430	7,290

12.



13.
(hours, number of bacteria)
As time in hours increases, the bacteria grow exponentially by the common ratio 3.

14.
$y \geq 10$