4. Using the following parent functions, write a new function given the following transformations: reflection, stretch, move left, and move down. \*\*Answers may vary\*\*\*

 I. f(x) = $3^{x}$

 II. f(x) = $\frac{1}{(2})^{x}$

 III. f(x) = $5^{x}$



**f(x) =** $2(4)^{x-5}$ **over the interval 5 ≤ x ≤ 8**



10. For each of the functions below, identify the transformations made on the parent function.

 I. f(x) = $4^{x}$ to f(x) = $-(4)^{x-5}$

 II. f(x) = $3^{x}$ to f(x) =$ 2(3)^{x+3}$+5

 III. f(x) = $7^{x}$ to f(x) =$-\frac{1}{2}(7)^{x+3}-1$

11. Annie invested $500 in to her savings account that pays 4.7% annual interest.

Write a function to model this scenario.



12.

13.

14.