

Secondary 1 Honors ~ 5.4 Linear & Exponential Equations

Name: _____ Period: _____

Write an explicit equation to represent each model below.

1.

x	y
0	10
1	40
2	160
3	640
4	2560

2.

x	y
0	-12
1	-4
4	20
5	28

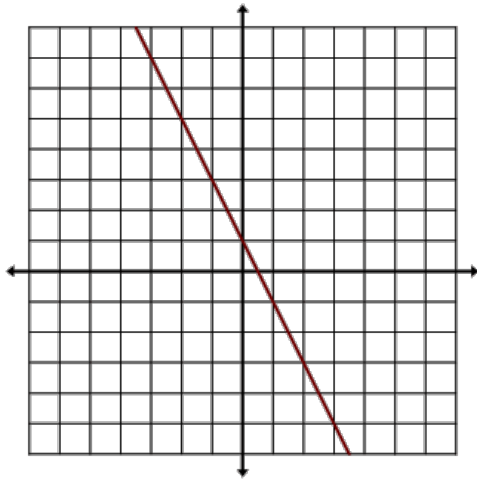
3.

x	y
0	-2
1	-14
2	-98
3	-686
4	-4802

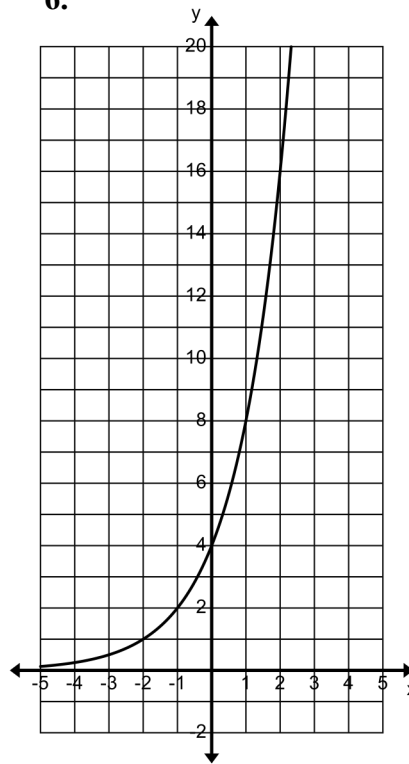
4.

x	y
1	750
2	150
3	30
4	6

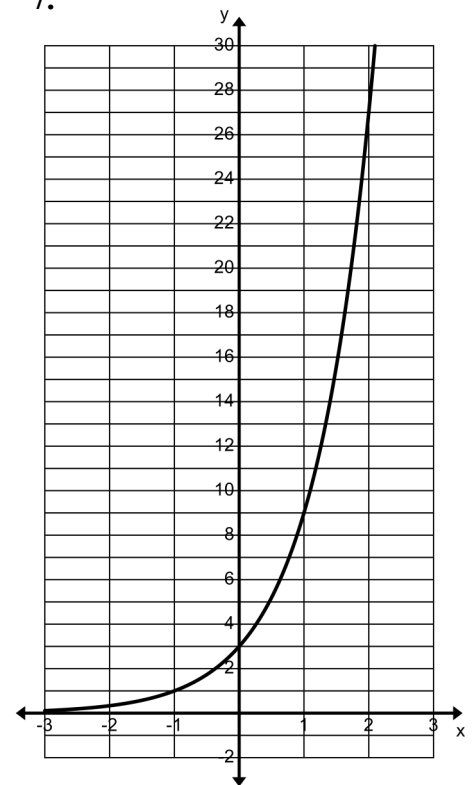
5.



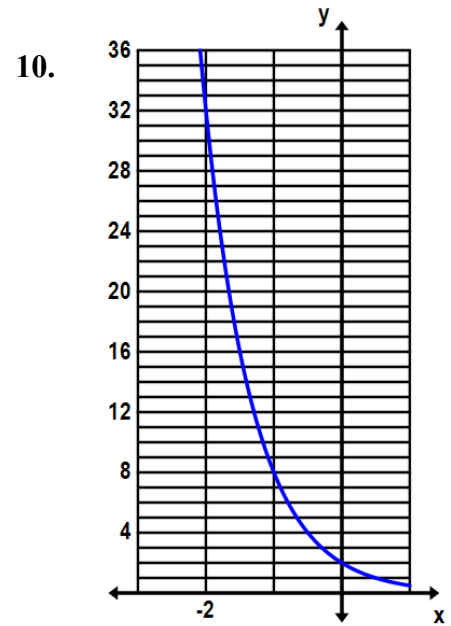
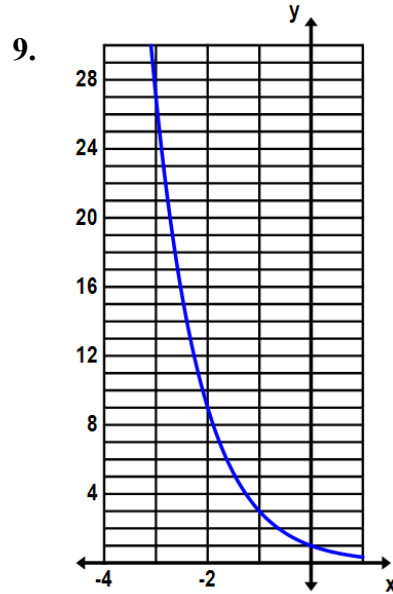
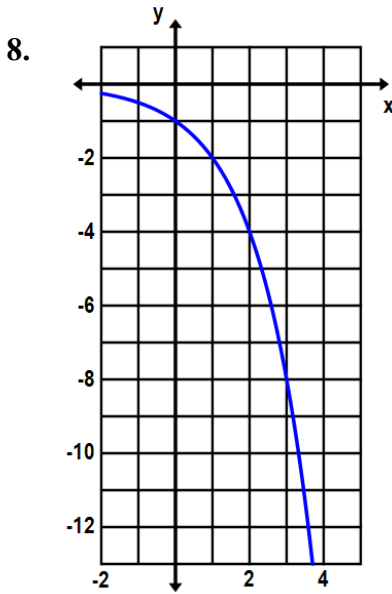
6.



7.

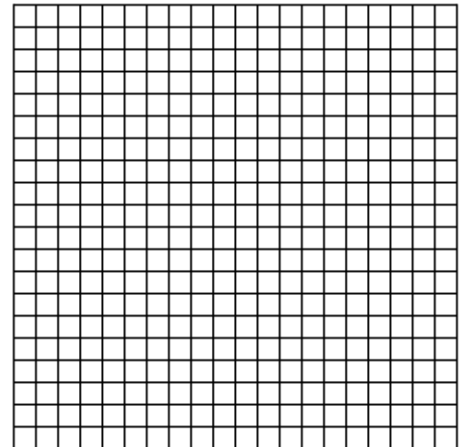


Write an explicit equation to represent each model below.

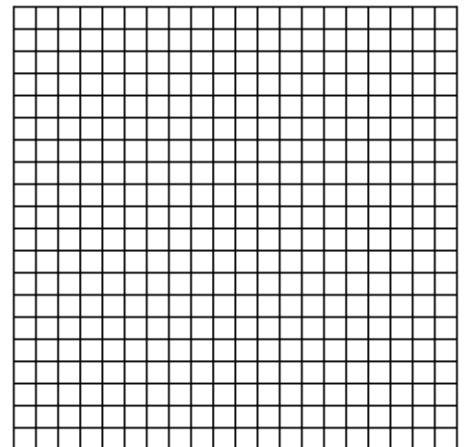


Write an explicit and recursive equation to represent each situation below. Then, graph. Be sure to label your axes. (Make sure you consider whether the graph should be discrete or continuous.)

11. Mr. Whitaker notices a pattern in the number of people attending the boys' basketball games. For weeks 1, 2, 3, 4, and 5, the number of students attending the games was 31, 43, 55, 67, and 79, respectively.

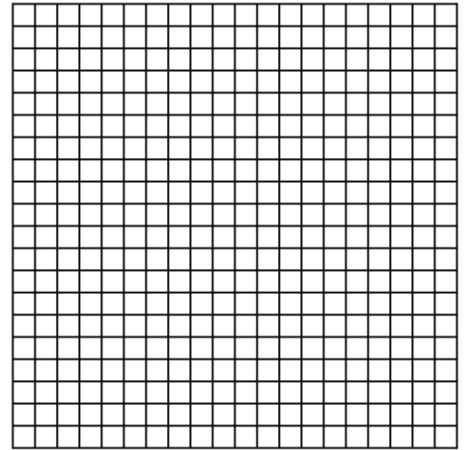


12. A scientist is measuring the growth of mold on a loaf of bread. On days 1, 2, 3, and 4 the area of the bread covered with mold (in square millimeters) was 4, 12, 36, and 108 respectively.

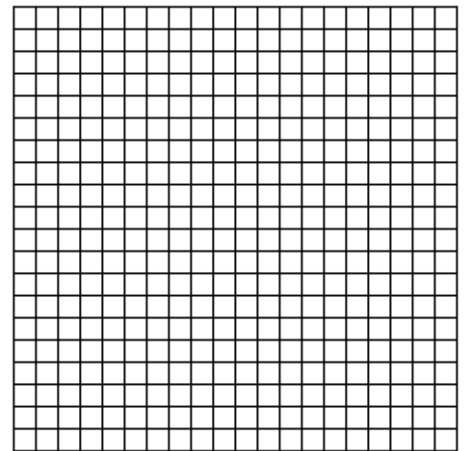


Write an explicit and recursive equation to represent each situation below. Then, graph. Be sure to label your axes. (Make sure you consider whether the graph should be discrete or continuous.)

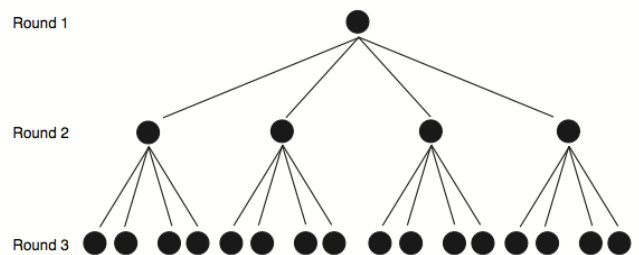
13. Hannah borrows \$30 from her parents. Each week, she pays them back the same amount. The total amounts she owes her parents after weeks 0, 1, 2, 3, and 4 are \$30, \$25, \$20, \$15, and \$10, respectively.



14. The numbers of an invasive species is tracked. On years 1, 2, 3, and 4 scientists estimate the population to be 15, 30, 60, and 120 respectively.



15. A rural school uses a phone tree to reach parents when the school is closed. Each parent calls multiple parents to notify them of the school closing. These parents then each call multiple parents, and so on. The diagram below shows the number of parents called after each round of calls. Each dot represents a parent. Write an explicit and recursive equation to represent the number of parents called in any round (not total).



Bonus: The population of a city is growing. Each year, the population increases by approximately 10%, or 0.10 times the previous year's population. The population this year is 10,000. Find an explicit equation to represent the population of the town in any year. Consider that year 0 is this year.