Algebra 1 - Mr. Allen-Black & Mrs. Gulamali Name_____

Exponential Functions, Day 2

Date_____ Period____

1) In 1970, there were 294,105 students participating in high school sports. Since then, the number has tripled each year.

   a) Write an equation to represent the number of students participating in high school sports since 1970.

   b) How many students participated in 1980?

2) Suppose a rabbit population of 5 rabbits doubled every month.

   a) Write an equation to represent the number of rabbits after t months.

   b) How many rabbits are there after 6 months?

   c) How many rabbits are there after a year?

3) Mr. Allen-Black recently bought a house for $179,000. The real estate in his neighborhood is increasing at 3% per year. This can be represented by the function $A(t) = 179000 \cdot 1.03^t$, where t is measured in years.

   a) How much will the house be worth in 3 years?

   b) How much will the house be worth in a decade?

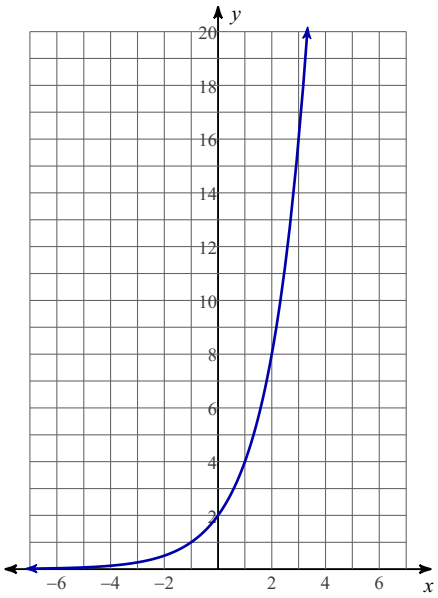
4) Mrs. Gulamali bought a car for $9000. The value of the car declines at 10% per year. This can be represented by the function $A(t) = 9000 \cdot 0.9^t$, where t is measured in years.

   a) How much will the car be worth in 4 years?

   b) How much will the car be worth in 6 months?

Write an exponential equation in the form of $f(x) = a \cdot b^x$ for each graph.

5)



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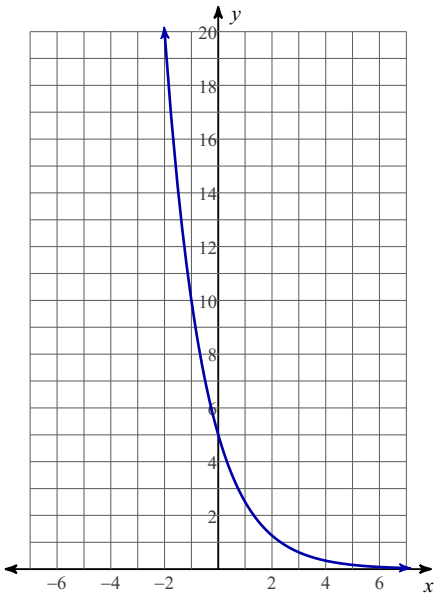

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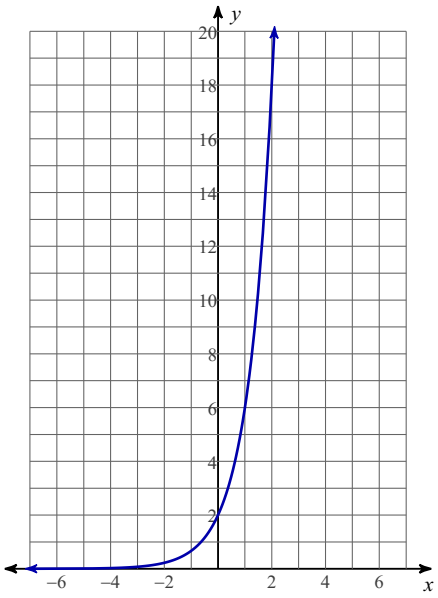

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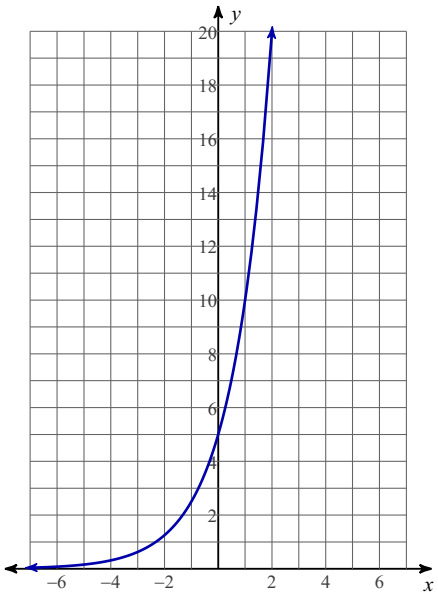
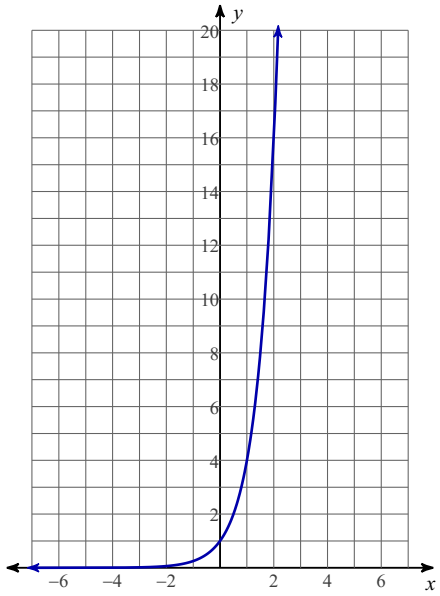


Write an equation for each graph.

9)



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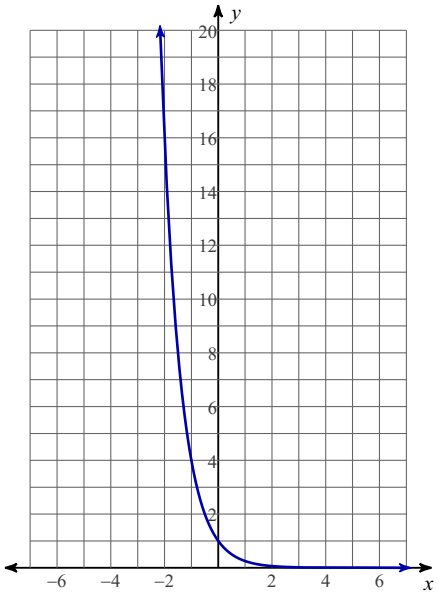
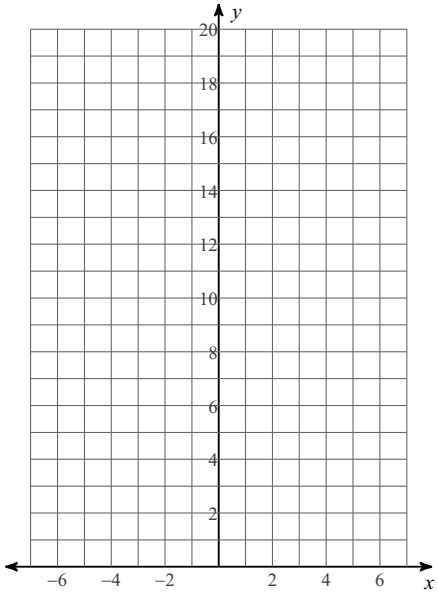
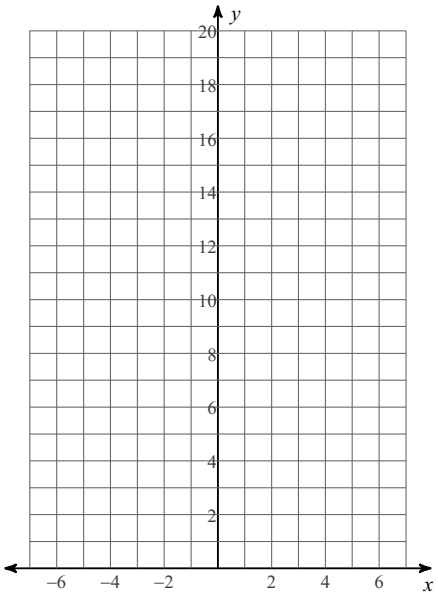


Sketch the graph of each function.

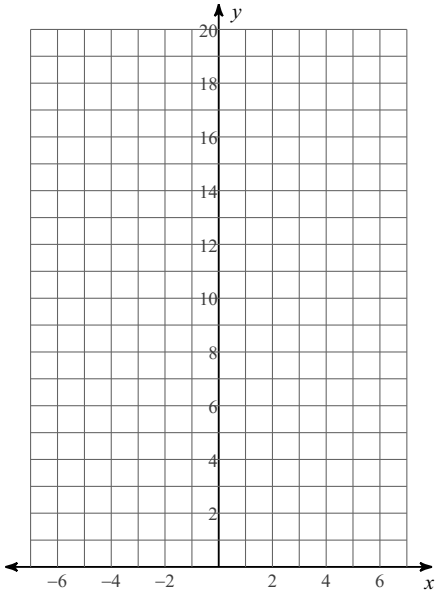
11) $f(x) = 4^x$



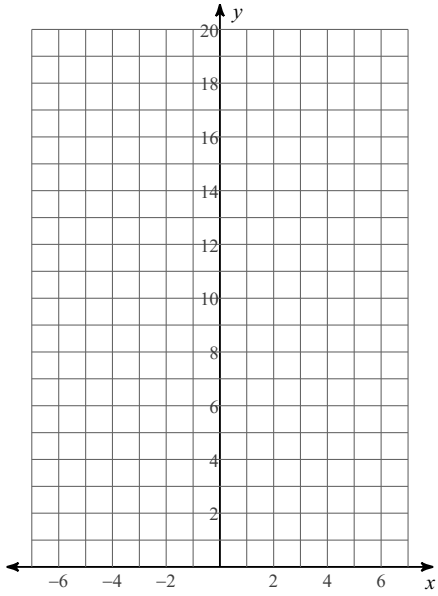
12) $f(x) = \left(\frac{1}{4}\right)^x$



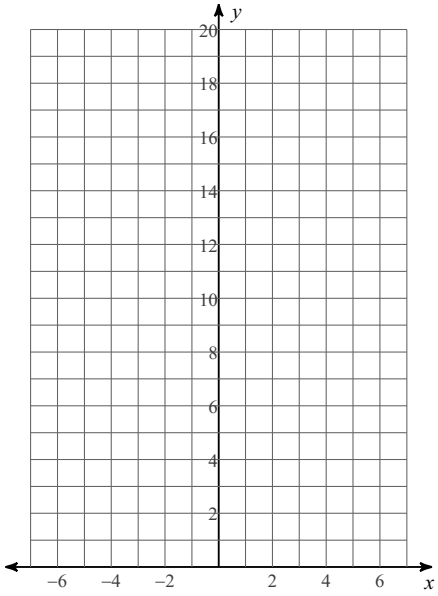
13) $f(x) = 3 \cdot \left(\frac{1}{2}\right)^x$



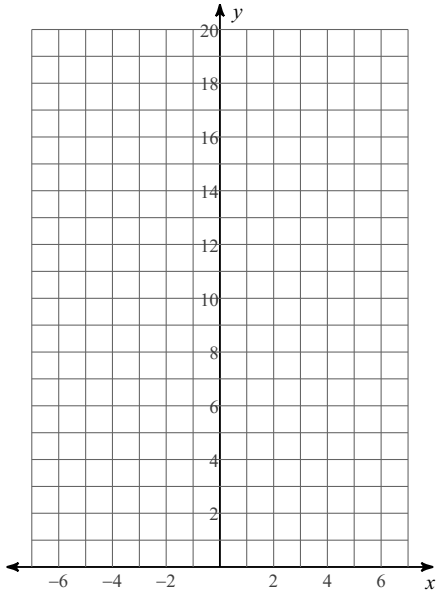
14) $f(x) = 4 \cdot \left(\frac{1}{2}\right)^x$



15) $f(x) = 4 \cdot 2^x$



16) $f(x) = 2 \cdot 3^x$



Answers to Exponential Functions, Day 2

1)

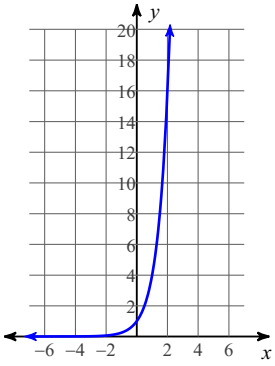
3)

5) $f(x) = 2 \cdot 2^x$

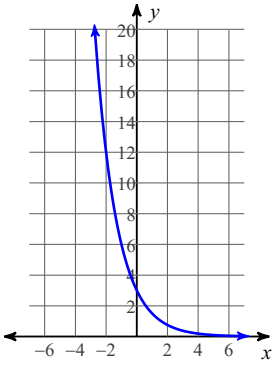
7) $f(x) = 2 \cdot 3^x$

9) $y = 4^x$

11)



13)



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