Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_

Graph the following exponential functions. Find the y-intercept, the equation of the asymptote and the domain and range for each function.

1. $y=4^{x}$
2. $y=(-1)(5)^{x}$
3. $y=3^{x}-2$
4. $y=6^{x}+3$
5. $y=7^{x+3}-5$
6. $y=3(2)^{x+1}-5$
7. March Madness is a single-game elimination tournament of 64 college basketball teams. How many games will be played until there is a champion? Include the championship game.
8. In 2012, the tournament added 4 teams to make it a field of 68 and there are 4 "play-in" games at the beginning of the tournament. How many games are played now?
9. An investment grows according the function A=P(1.05)t where P represents the initial investment, A represents the value of the investment and t represents the number of years of investment. If $10,000 was the initial investment, how much would the value of the investment be after 10 years, to the nearest dollar?
10. How much would the value of the investment be after 20 years, to the nearest dollar?