

Name: \_\_\_\_\_

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5. Suppose you needed \$25,000 to maintain a particular standard of living in 1980. Use the CPI table below to determine how much would you have needed in 1990 to maintain the same standard of living? (Assume that all prices have risen at the same rate as the CPI. )

Year	CPI
1960	29.6
1970	38.8
1980	82.4
1990	130.7
2000	172.2
2010	218.0

6. How much must be deposited today into an account, with quarterly compounding and an APR of 6%, in order to have \$25,000 in 10 years for a down payment on a house? (Assume no additional deposits are made.)

7. You want to buy a new car and need to take out a loan to accomplish this. You would like to borrow the most that you can afford. Currently, you can afford to make monthly payments of \$500 every month. For a 10 year loan, at 12%, how much can you take a loan out for?

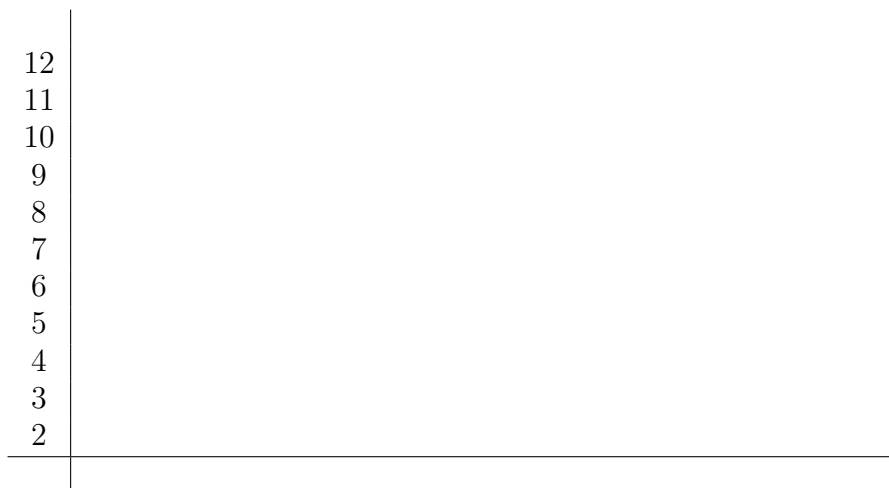
8. The half-life of a drug in the bloodstream is 14 hours. What fraction of the original drug dose remains after 60 hours?

9. A recent telephone poll of 995 randomly selected women revealed that 8 in 10 women in the United States believe there has been progress in finding a cure for cancer in the last 28 years. Identify the population in the given problem. (Circle the correct answer.)

- (a) 8 out of 10 women in the country
- (b) All women in the country
- (c) The 995 women selected
- (d) 8 out of 10 of the 995 women selected

10. The following table shows the GDP (gross domestic product) of the top GDP countries. Make a bar graph for these data, with the bars in descending order.

country	GDP (\$ trillion)
US	19
China	12
Japan	5
Germany	4
United Kingdom	3
India	3
France	3
Brazil	2
Italy	2
Canada	2



11. A student stands in front of the Health Center during final exam week to survey student anxiety on campus. She finds that 90% of U of A students feel significant stress. Identify at least one potential source of bias in this study.
12. Household income distribution in the U.S. is right-skewed. Explain carefully what this means.
13. The following data represents the heights of a randomly chosen group of adult Emperor penguins (in feet):
- 3.7, 3.8, 3.8, 3.9, 4.2, 4.1, 4.0, 4.0, 3.6, 4.3, 4.4, 3.8, 3.9, 4.1, 4.6
- (a) Determine the median of the data.

(b) If a large outlier is added in, what effect would this have on the mean?

14. The distribution of heights of six-year-old American girls is approximately normally distributed, with a mean of 46 inches and standard deviation of 3 inches. According to the 68-95-99.7 rule, approximately what percentage of six-year-old girls are shorter than 43 inches?
15. A scientific report on climate change mentions that several recent severe weather events have statistical significance. Explain carefully what this means.
16. A survey conducted from a poll of 1162 people found that about one-third (34%) of Americans keep a dog for protection. What is the margin of error of this result?
17. Pizza House offers 5 different salads, 7 different kinds of pizza, and 3 different desserts. How many different three course meals can be ordered?

18. Determine the probability of drawing either an ace or a heart from a standard deck of 52 cards.
19. What's the probability getting 6 heads when you a toss six (fair) coins simultaneously?
20. Ten candidates are eligible to serve as president and vice-president of a student club. How many 2-person teams are possible?
21. You are given 37 to 6 odds against rolling an 6 with a pair of dice, meaning you win \$37 if you succeed in rolling an 6, and you lose \$6 if you fail.
- (a) What is the expected value of the game (to you)?
- (b) If you play the game many times, do you expect to win or lose money?