

1. We borrowed \$1000 for a year, with a simple annual interest rate of 7%. After 3 months, we make a partial payment of \$300. After an additional 4 months, we make another partial payment of \$350. How much do we have to pay at the end of the year?
2. We placed \$10 into a bank account with an annual compound interest rate of 8%. How much money do we have in the account after 200 years if the bank compounds
 - (a) annually
 - (b) semi-annually
 - (c) monthly
 - (d) daily
 - (e) continuously?
3. We roll two dice. What is the probability that the difference between the two numbers rolled is 2?
4. We roll two dice. What is the probability that the sum of the two numbers rolled is 11?
5. We toss five coins. What is the probability that we end up with
 - (a) five tails?
 - (b) four tails and one heads?
 - (c) three tails and two heads?
6. We randomly pull 3 cards from $\{1, 2, \dots, 10\}$, without replacement. How many different number triples can we pull if the order does not matter?
7. Find $\binom{12}{9}$.
8. The population of a town has decreased from 90,000 to 84600. What percent of a change does this represent?
9. Find the sum $\binom{5}{2} + \binom{5}{3} =$
10. The base of a solid is a right triangle with hypotenuse 29 cm and one other side 21 cm long. The height of the solid is 30 cm. Find the volume of the solid.
11. Find the volume of a cone that has height 4 ft and a circular base of radius 2 ft.
12. We pull a card from a standard deck of 52. What is the probability that we pull
 - (a) a red king?
 - (b) a king or a red card?