

MTH 21 and 21.5 Chapters 3 and 5 sample questions

Chapter 3: probability (3.1 – 3.4)

Chapter 5: finance (5.1 – 5.4)

MTH 21 and 21.5 Chapters 3 and 5 sample questions

Problem 1:

A fair coin is tossed four times, What is the size of the sample set/space?

MTH 21 and 21.5 Chapters 3 and 5 sample questions

Problem 2: (it is #4 from the review)

We tossed 3 coins, what is the probability of getting two heads?
What are the odds of getting two heads?

MTH 21 and 21.5 Chapters 3 and 5 sample questions

Problem 3:

A pair of 7 sided dice are tossed. What is the probability that at least one of the dice has a value greater than or equal to 2?

MTH 21 and 21.5 Chapters 3 and 5 sample questions

Problem 4:

(Note that an Ace is considered a face card for this problem)

In drawing a single card from a regular deck of 52 cards we have:

(a) $P(\text{black and a face card}) =$

(b) $P(\text{black or a face card}) =$

(c) $P(\text{face card or a number card}) =$

(d) $P(\text{a number card less than 5}) =$

MTH 21 and 21.5 Chapters 3 and 5 sample questions

$$I = Prt$$

$$FV = P(1 + rt)$$

Problem 5: (problem #2 from the review)

Anna and Jack buy a three-year CD that pays 4.7% simple interest from the bank AAA for \$70,000. Find the interest that the investment earns and the value of the CD at the end of this term.

MTH 21 and 21.5 Chapters 3 and 5 sample questions

$$I = Prt$$

$$FV = P(1 + rt)$$

Problem 6: (problem #3 from the review)

Company B asked bank C for a short-term loan of \$27,000 at 8.2% from December 12th to February 10th. Find the amount they need to pay back to bank C at the end of the loan.

MTH 21 and 21.5 Chapters 3 and 5 sample questions

$$FV = P(1+i)^n$$

Problem 7:

Sam deposits \$4,390 in an account, and 4 years later the account balance is \$9,280 dollars. If interest is compounded monthly, what is the rate of interest per month?

MTH 21 and 21.5 Chapters 3 and 5 sample questions

Problem 8:

If you make quarterly payments of \$568.00 into an *ordinary annuity* earning an annual interest rate of 6.09 % compounded quarterly, how much will you have in the account after 12 years?

$$FV(\text{ordinary}) = \frac{\text{pymt} [(1+i)^n - 1]}{i}$$

MTH 21 and 21.5 Chapters 3 and 5 sample questions

$$pymt \frac{((1+i)^n - 1)}{i} = P(1+i)^n$$

Problem 9:

A \$600 sheds are sold on a monthly payment plan over 4 years. If the interest rate is 3.25% per month, find the monthly payment.