Study Guide: Pascal’s Triangle, Counting, Systems

1) How many different couples can you make from 8 boys and 12 girls?

2) How many ways can you choose 5 players from 10?

3) How many ways can you rank 5 players?

4) How many ways can you rank 5 players 1st, 2nd and 3rd?

5) How many 7-song sets can you make from 12 songs?

6) How many 6 digit passwords can you make if no digit is repeated?

7) How many ways can the letters in the word “precal” be arranged?

8) Quizno’s offers 5 bread options, 4 different meats, and 8 different cheeses. How many different sandwich options are there?

9) How many different 3-topping pizzas can be made if there are 8 topping options?

10) How many ways can 5 finalists be chosen from 20 entries?

11) How many ways can you pick 5 classes from 12?

12) How many ways can you schedule 5 classes from 12?

13) Suppose this is a row of Pascal’s triangle. What would the next row be?

 1 11 55 165 330 462 462 330 165 55 11 1

Expand. You need to know Pascal’s triangle for the quiz.

14) (x + y)4 15) (x – 3y)5 16) (x + 5)6 17) (2x – y)3

Write the matrix you used and then solve the system on your calculator.

18) x – y + z = -1 19) 6x – y + 2z = 8

 x + y + 3z = -3 2x + 3y – z = -9

 2x – y + 2z = 0 4x + 2y + 5z = 1

20) Three apples and two peaches cost $3.00. Four apples and a peach cost $2.75. Find the cost of each.

21) Tickets to a school play are $4.50 for adults and $3.00 for students. If 300 tickets are sold and $1087.50 collected, how many student tickets were sold?

22) An amusement park charges an admission plus a fee for each ride. If admission plus two rides cost $10 and admission plus five rides costs $16, what is the price of admission?