NAME:

Test 26 (Lessons 51–52): Counting Principles

Do not use technology for this page. Show your work.

1) Construct rows $0-7$ of Pascal's Triangle.

2) Expand $(2x-y)^4$ using Pascal's Triangle.

For problems 3–4, use Pascal's Triangle.

3) $nCr(6, 4)$

4) $nCr(7, 5)$

Do not use technology for this page. Show your work.

5) You stop at the grocery store to purchase five items. How many different ways can you take the items out of your basket to purchase?

6) There are twelve students in the debate club at West High School. Their advisor needs to assign them to committees. How many ways can the club members be arranged into committees of three?

7) In a tournament, the first- and second-place teams receive awards. How many arrangements are possible if sixteen teams sign up to compete?

Use technology as needed to complete these problems.

8) Find the fifth term of the binomial: $\left(\frac{1}{2}b + c\right)^9$

9) Find the middle term of the binomial: $(x - y)^{14}$

10) You read twenty books this year and decided to write a review of your top five books. How many ways can you rank your top five books of the year?