10-3 Lesson Master

SKILLS Objective A

1. Use the Binomial Theorem to expand \((x - ky)^4\). Do not simplify. 

In 2–4, expand each binomial.

2. \((5a + 2b)^4\)

3. \(\left(\frac{1}{2}g + \frac{1}{3}h\right)^3\)

4. \((z - z^2)^5\)

5. What is the coefficient of \(x^4y^6\) in the expansion of \((2x - 3y)^{10}\)?

PROPERTIES Objective D

6. The 5th number in row 9 of Pascal’s Triangle is equal to the coefficient of the \(x^m y^n\) term of the expansion \((x + y)^9\). What are \(m\) and \(n\)?

7. In the expansion of \((x + y)^{27}\), the coefficient of \(x^a y^b\) is \(\binom{a}{b}\). What are possible values of \(a\) and \(b\)?

REPRESENTATIONS Objective K

In 8–10, \(aC_x^b\), where \(a < b\), represents a term in the expansion of a binomial.

8. What row of Pascal’s Triangle contains the coefficient of this term?

9. Which term of the binomial expansion does this represent?

10. What is the coefficient of this term?