

Answers to Chapter 9 Sections 5-7 Review

Section 5

1. $(2x - 3y)^6 = 64x^6 - 576x^5y + 2160x^4y^2 - 4320x^3y^3 + 4860x^2y^4 - 2916xy^5 + 729y^6$
2. ${}_{12}C_7 \cdot x^5 \cdot 3^7 = 1732104 x^5$
3. ${}_{15}C_8 \cdot 3^7 \cdot 2^8 = 3,602,776,320$
4. 792

Section 6

1. 10 ways
2. $3^{10} = 59,049$
3. $\frac{11!}{2!2!2!} = 4,989,600$

Section 7

1. $\frac{12}{36} = \frac{1}{3}$
2. 19%
3.
 - a. $\frac{20}{40} \cdot \frac{20}{40} = \frac{1}{4}$
 - b. $\frac{1}{2} \cdot \frac{1}{2} + \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{2}$
 - c. $\frac{29}{40} \cdot \frac{29}{40} = \frac{841}{1600}$
 - d. $\frac{1}{40}$