

10 Counting Methods and Probability



a.2

10.1 Apply the Counting Principle and Permutations

a.2

10.2 Use Combinations and the Binomial Theorem

a.4

10.3 Define and Use Probability

a.1

10.4 Find Probabilities of Disjoint and Overlapping Events

a.1

10.5 Find Probabilities of Independent and Dependent Events

a.1

10.6 Construct and Interpret Binomial Distributions

Before

In previous chapters, you learned the following skills, which you'll use in Chapter 10: simplifying expressions, multiplying binomials, and finding areas.

Prerequisite Skills

VOCABULARY CHECK

Copy and complete the statement.

1. The **coefficient** of x^2 in the expression $3x^3 - 15x^2 + 4$ is ?.
2. Written as a fraction in lowest terms, the **ratio** of 18 to 45 is ?.
3. The expressions $x + 3$ and $2x - 1$ are examples of **binomials** because they have ? terms.

SKILLS CHECK

Simplify the expression. (Review p. 2 for 10.1.)

4. $\frac{6 \cdot 5 \cdot 4 \cdot 3}{2 \cdot 1}$

5. $\frac{13 \cdot 12 \cdot 11}{10 \cdot 9 \cdot 8}$

6. $\frac{8 \cdot 7 \cdot 6 \cdot 5 \cdot 4}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$

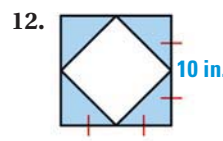
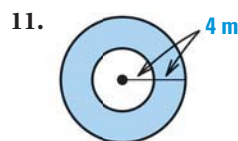
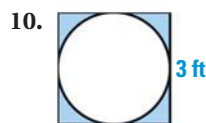
Find the product. (Review p. 346 for 10.2.)

7. $(x + y)^3$

8. $(5x + 1)^3$

9. $(3x - 2y)^3$

Find the area of the shaded region. Assume all shapes are circles or squares. (Review pp. 991–992 for 10.3.)



TEXAS

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Prerequisite skills practice at classzone.com