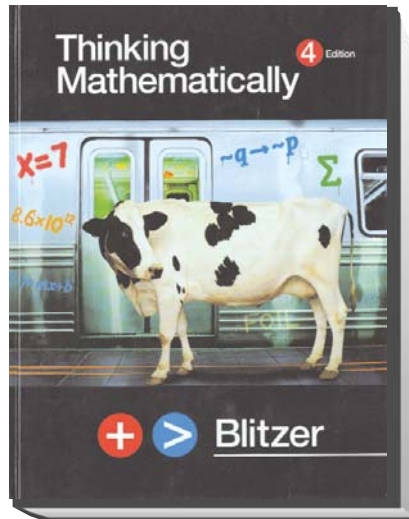


# Prentice Hall

*Thinking Mathematically,*  
*4th Edition* © 2008, (Blitzer)



C O R R E L A T E D T O

Mississippi Mathematics Framework 2007 Revised, Discrete Mathematics

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 Correlated to:  
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<b>NUMBER AND OPERATIONS</b>		
<b>Competencies and Objectives/Benchmarks:</b>		
<b>1. Explore relationships among number systems.</b>		
<i>Objectives</i>	<i>Pupil Edition Page References</i>	<i>Annotated Teacher Edition Page References</i>
a. Use matrices to model and solve problems. (DOK 2)	NA	Opportunities to address this standard can be found on the following pages: 400-405
b. Model relationships and solve problems using Graph Theory. (DOK 2)	NA	591-592, 597-598, 605 (#65-66), 606 (#21), 823-863, 865-870
<b>ALGEBRA</b>		
<b>Competencies and Objectives/Benchmarks:</b>		
<b>2. Use algebraic methods to represent simple and complex relationships among statements. Use models to represent patterns and operations.</b>		
<i>Objectives</i>	<i>Pupil Edition Page References</i>	<i>Annotated Teacher Edition Page References</i>
a. Define sentence (proposition), and use logic to determine if the sentence is true or false. (DOK 2)	NA	108-109, 113-114, 127-151, 188-193
b. Define simple compound statements: negation, conjunction, disjunction, contradiction, and tautology using truth tables. (DOK 2)	NA	127-141, 189, 191-192
c. Define a conditional statement using truth tables. (DOK 2)	NA	142-151, 189, 191-193
d. Apply the principles of logic to determine the validity of arguments. (DOK 3)	NA	166-179, 190, 192-193
e. Define a sequence recursively and explicitly. (DOK 2)	NA	291 (Checkpoint 4a), 293 (Example 7b), 294-296, 299, 301-302

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f. Find the explicit formula for a recursively-defined sequence using iteration. (DOK 2)	NA	Opportunities to address this standard can be found on the following pages: 288-297
g. Use mathematical induction to verify explicit formulas for arithmetic, geometric, and other sequences and/or series. (DOK 2)	NA	Opportunities to address this standard can be found on the following pages: 288-297
h. Add, subtract, multiply, and divide sets and find unions, intersections, differences, and complements of sets. (DOK 2)	NA	67-90, 103-104
<b>GEOMETRY</b>		
<b>Competencies and Objectives/Benchmarks:</b>		
<b>3. Use geometric models to describe and analyze mathematical relationships, establish the validity of conjectures, and determine solutions to real applications.</b>		
<i>Objectives</i>	<i>Pupil Edition Page References</i>	<i>Annotated Teacher Edition Page References</i>
a. Construct a logic circuit from a Boolean expression to determine output. (DOK 2)	NA	Opportunities to address this standard can be found on the following pages: 127-138, 141-149, 152-163, 166-175
b. Construct a Boolean expression given a logic circuit. (DOK 2)	NA	Opportunities to address this standard can be found on the following pages: 127-138, 141-149, 152-163, 166-175

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c. Construct a logic circuit and Boolean expression given an input/output table. (DOK 2)	NA	Opportunities to address this standard can be found on the following pages: 127-138, 141-149, 152-163, 166-175
d. Use Venn diagrams to represent basic operations on sets. (DOK 1)	NA	68-71, 74-75, 77-78, 81-90, 101-104
e. Determine the number of vertices and edges as well as walks, paths, and circuits in a graph. (DOK 2)	NA	591, 824, 830, 831 (#1-2), 864-865
f. Construct walks, paths, and circuits given an edge/vertex string. (DOK 2)	NA	825-828, 831 (#5-8), 832-833, 866 (#10-12), 868
g. Determine whether Euler and Hamiltonian (Hamiltonian) circuits exist in a given graph. (DOK 2)	NA	834-854, 864-867, 869-870
h. Construct a graph given the adjacency matrix of the graph and vice versa. (DOK 1)	NA	Opportunities to address this standard can be found in the following pages: 829-830
i. Determine connectivity of a graph using an adjacency matrix. (DOK 1)	NA	Opportunities to address this standard can be found in the following pages: 829-830
j. Determine the number of walks between two vertices using powers of the adjacency matrix. (DOK 2)	NA	Opportunities to address this standard can be found in the following pages: 829-830
k. Explain why a graph is a tree. (DOK 2)	NA	855-857, 861, 863 (#45-46), 865, 867 (#34-36), 870 (#18)

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l. Determine the level, parent, siblings, ancestors, descendants and height of a rooted tree. (DOK 1)	NA	Opportunities to address this standard can be found in the following pages: 855-863
m. Determine the shortest route in a spanning tree. (DOK 2)	NA	858-863, 865, 868 (#39-41), 870 (#20)
<b>DATA ANALYSIS &amp; PROBABILITY</b>		
<b>Competencies and Objectives/Benchmarks:</b>		
<b>4. Investigate and explain strategies for solving simple games.</b>		
<i>Objectives</i>	<i>Pupil Edition Page References</i>	<i>Annotated Teacher Edition Page References</i>
a. Determine the characteristics that result in a fair game. (DOK 2)	NA	648
b. Identify winning strategies for basic games. (DOK 3)	NA	Opportunities to address this standard can be found on the following pages: 641-649, 666-668
c. Create and use simulations for probability models. (DOK 3)	NA	Opportunities to address this standard can be found on the following pages: 627-632, 635-639, 641-649, 653-660
d. Solve problems using discrete random variables. (DOK 2)	NA	Opportunities to address this standard can be found on the following pages: 627-632, 635-639, 641-649, 653-660