

## Math 1313 Course Objectives

Chapter.Section	Objective and Examples	Material Covered by End of Week #
1.2	<p><b>Given two points on a line, determine the slope and equation of the line in point-slope form and slope-intercept form.</b></p> <p>Example: Find the equation of the line, in point-slope form and slope-intercept form, that passes through (3, 5) and (0,1).</p> <p><b>Given two points on a line <math>L_1</math>, determine the slope of a line <math>L_2</math> that is parallel or perpendicular to line <math>L_1</math>.</b></p> <p>Example: Determine the slope of a line parallel to a line that passes through (3, 5) and (0,1).</p> <p>Example: Determine the slope of a line perpendicular to a line that passes through (3, 5) and (0,1).</p> <p><b>Given a point on a line <math>L_1</math> and an equation of another line <math>L_2</math>. Determine an equation for <math>L_1</math>, given that <math>L_1</math> is parallel or perpendicular to <math>L_2</math>.</b></p> <p>Example: Line <math>L_1</math> passes through (2, 1). The equation for line <math>L_2</math> is <math>2x + 3y = 5</math>. Write an equation for line <math>L_1</math>, given that line <math>L_1</math> is parallel to line <math>L_2</math>.</p> <p>Example: Line <math>L_1</math> passes through (2, 1). The equation for line <math>L_2</math> is <math>2x + 3y = 5</math>. Write an equation for line <math>L_1</math>, given that line <math>L_1</math> is perpendicular to line <math>L_2</math>.</p>	1

	<p><b>Given a point on a line <math>L_1</math> and a pair of points on a line <math>L_2</math>. Determine an equation for <math>L_1</math>, given that <math>L_1</math> is parallel or perpendicular to <math>L_2</math>.</b></p> <p>Example: Line <math>L_1</math> passes through (2, 1). Line <math>L_2</math> passes through (3, 2) and (5, 1). Write an equation for line <math>L_1</math>, given that line <math>L_1</math> is parallel to line <math>L_2</math>.</p> <p>Example: Line <math>L_1</math> passes through (2, 1). Line <math>L_2</math> passes through (3, 2) and (5, 1). Write an equation for line <math>L_1</math>, given that line <math>L_1</math> is perpendicular to line <math>L_2</math>.</p>	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
1.4	<p><b>Given a system of linear equations, determine whether it has a unique solution, no solution or infinitely many solutions.</b></p> <p>Example: Determine whether the following system has a unique solution, no solution or infinitely many solutions.</p> $y = 3x + 6$ $y = -5x + 10$	1

Chapter.Section	Objective and Examples	Material Covered by End of Week #
3.1	<p><b>Given a linear system of inequalities, determine the solution set.</b></p> <p>Example: Determine the solution set for the following system of linear inequalities.</p> $2x + 4y > 16$ $-x + 3y \geq 7$	1

	<p><b>Given the graph of a system of linear inequalities, determine the system of linear inequalities.</b></p> <p>Example: Write the system of linear inequalities that describes the shaded region.</p>	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
1.3	<p><b>Given a linear depreciation problem, find the rate of depreciation, the expression that expresses the book value at the end of <math>t</math> years and the value of the asset after a given amount of years.</b></p> <p>Example: A company purchased a car in 2000 for \$13,000. The car is depreciated linearly for 5 years. The scrap value of the car is \$4,000. What is the rate of depreciation? Write the expression that expresses the book value of the car after <math>t</math> years of use. What is the value of the car in 2003?</p> <p><b>Given the production cost, selling price of a product and the fixed costs of the company, find the cost function, revenue function, profit function, and compute the profit or loss corresponding to certain production levels.</b></p> <p>Example A company has a fixed cost of \$100,000 and a production cost of \$14 for each unit produced. The product sells for \$20 per unit.</p>	2

	<p>What is the cost function?          What is the revenue function?          What is the profit function?          What is the break-even point?          What is the profit or loss corresponding to a production level of 12,000 and 20,000 units?</p>	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
1.4	<p><b>Given a word problem find break-even quantity, break-even revenue and break-even point for the company.</b></p> <p>Example: A company has a fixed cost of \$100,000 and a production cost of \$14 for each unit produced. The product sells for \$20 per unit.</p> <p>What is the break-even quantity?          What is the break-even revenue?          What is the break-even point?</p>	2

Chapter.Section	Objective and Examples	Material Covered by End of Week #
2.2	<p><b>Given a linear system of equations, give the augmented matrix.</b></p> <p>Example: Write the augmented matrix corresponding to the given system of equations.  <math>2x - 3y = 7</math>  <math>3x + y = 4</math></p> <p><b>Given an augmented matrix, give the corresponding system of equations.</b></p>	4

	<p>Example: Write the system of equations corresponding to the given augmented matrix.</p> $\left( \begin{array}{cc c} 1 & 6 & 9 \\ 0 & 31 & -7 \end{array} \right)$ <p><b>Given an augmented matrix, determine whether its in row-reduced form.</b></p> <p>Example: Indicate whether the matrix is in row reduced form.</p> $\left( \begin{array}{cc c} 1 & 0 & 9 \\ 0 & 1 & -7 \end{array} \right)$ <p><b>Given a linear system of equations, use the Gauss-Jordan elimination method to solve.</b></p> <p>Example: Solve the system of linear equations using the Gauss-Jordan elimination method.</p> $\begin{aligned} 2x - 3y &= 7 \\ 3x + y &= 4 \end{aligned}$	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
2.3	<p><b>Given an augmented matrix in row-reduced form, determine the solution or solutions, if they exist.</b></p> <p>Example: Given that the augmented matrix in row-reduced form is equivalent to the augmented matrix of a system of linear equations. Determine whether the system has a solution and find the solution(s) to the system, if they exist.</p> $\left( \begin{array}{cc c} 1 & 0 & 3 \\ 0 & 1 & 9 \\ 0 & 0 & 0 \end{array} \right)$ <p><b>Given a system of linear equations, use the Gauss-Jordan elimination method to solve.</b></p>	4

	<p>Example: Solve the system of linear equations using the Gauss-Jordan elimination method.</p> $2x - y = 3$ $x + 2y = 4$ $2x + 3y = 7$	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
2.4	<p><b>Given a matrix, find its size, a certain element, its transpose, etc.</b></p> <p>Example: Refer to the following matrices:</p> $A = \begin{pmatrix} -9 & 2 & 3 & 4 \\ -5 & -8 & -10 & 11 \\ 9 & 0 & 6 & 7 \\ -2 & 1 & 0 & 0 \end{pmatrix}$ <p>a. What is the size of A?  b. Find <math>a_{34}</math>.  c. Find the transpose of A.</p> <p><b>Given matrices, perform indicated operations.</b></p> <p>Example: Refer to the following matrices:</p> $A = \begin{pmatrix} 6 & 5 \\ 9 & 0 \end{pmatrix}, \quad B = \begin{pmatrix} -8 & 5 & 6 \\ 3 & 3 & 2 \\ -4 & -7 & 0 \end{pmatrix}, \quad C = \begin{pmatrix} 9 & 2 & 4 \\ 1 & 3 & 8 \\ 1 & -7 & -1 \end{pmatrix},$ $D = \begin{pmatrix} 9 & -3 \\ 7 & 2 \end{pmatrix}$ <p>Perform the indicated operation, if possible.</p> <p>a. <math>A+C</math>  b. <math>B-D</math></p> <p><b>Given a matrix equation, solve for an indicated variable.</b></p>	5

	<p>Example: Solve for a-g and y.</p> $-5 \begin{pmatrix} 9 & 4 & -2 \\ 8 & 9 & 1 \\ 0 & 3 & 6 \end{pmatrix} + \begin{pmatrix} -5 & -9 & -1 \\ 8 & 6 & 7 \\ -8 & 10 & y \end{pmatrix} = -8 \begin{pmatrix} a & b & c \\ 4 & d & \frac{1}{9} \\ e & f & -4 \end{pmatrix}$	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #																							
2.5	<p><b>Given matrices find an indicated product, if possible.</b></p> <p>Example: Let <math>A = \begin{pmatrix} 6 &amp; 9 &amp; 3 \\ 0 &amp; 0 &amp; 7 \end{pmatrix}</math> and</p> $B = \begin{pmatrix} 9 & 2 & 3 & -4 \\ -5 & 6 & 1 & 9 \\ 3 & 0 & 1 & 1 \end{pmatrix}$ . Compute the product AB, if possible. <p>Let <math>A = \begin{pmatrix} -9 &amp; 6 \\ -2 &amp; 1 \\ 8 &amp; 7 \\ 3 &amp; -7 \end{pmatrix}</math> and <math>B = \begin{pmatrix} 7 &amp; -2 \\ 1 &amp; 2 \\ 44 &amp; 50 \end{pmatrix}</math>. Compute the product AB, if possible.</p> <p><b>Given a word problem, use matrix multiplication to solve.</b></p> <p>Example: The total output of loudspeaker systems of the Acrosonic Company in their three production facilities for May and June is given by the matrices A and B, respectively, where</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;"><i>ModelA</i></td> <td style="text-align: center;"><i>ModelB</i></td> <td style="text-align: center;"><i>ModelC</i></td> <td style="text-align: center;"><i>ModelD</i></td> </tr> <tr> <td style="text-align: right;"><math>A =</math></td> <td style="text-align: center;"><i>LocationI</i></td> <td style="text-align: center;">120</td> <td style="text-align: center;">321</td> <td style="text-align: center;">200</td> <td style="text-align: center;">130</td> </tr> <tr> <td></td> <td style="text-align: center;"><i>LocationII</i></td> <td style="text-align: center;">340</td> <td style="text-align: center;">560</td> <td style="text-align: center;">333</td> <td style="text-align: center;">110</td> </tr> <tr> <td></td> <td style="text-align: center;"><i>LocationIII</i></td> <td style="text-align: center;">630</td> <td style="text-align: center;">230</td> <td style="text-align: center;">34</td> <td style="text-align: center;">0</td> </tr> </table>		<i>ModelA</i>	<i>ModelB</i>	<i>ModelC</i>	<i>ModelD</i>	$A =$	<i>LocationI</i>	120	321	200	130		<i>LocationII</i>	340	560	333	110		<i>LocationIII</i>	630	230	34	0	6
	<i>ModelA</i>	<i>ModelB</i>	<i>ModelC</i>	<i>ModelD</i>																					
$A =$	<i>LocationI</i>	120	321	200	130																				
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	<i>LocationIII</i>	630	230	34	0																				

	$  \begin{matrix}  & \text{ModelA} & \text{ModelB} & \text{ModelC} & \text{ModelD} \\  \text{LocationI} & 143 & 340 & 230 & 100 \\  \text{LocationII} & 200 & 440 & 200 & 100 \\  \text{LocationIII} & 22 & 400 & 3 & 200  \end{matrix}  $	
	<p>The unit production costs and selling prices for these loudspeakers are given by matrices C and D, respectively, where</p> $  C = \begin{matrix} \text{ModelA} & 130 \\ \text{ModelB} & 240 \\ \text{ModelC} & 330 \\ \text{ModelD} & 500 \end{matrix}  \quad \text{and} \quad  D = \begin{matrix} \text{ModelA} & 230 \\ \text{ModelB} & 340 \\ \text{ModelC} & 440 \\ \text{ModelD} & 670 \end{matrix}  $ <p>Compute AC and explain the meaning of the entries.</p>	

Chapter.Section	Objective and Examples	Material Covered by End of Week #
2.6	<p><b>Given two matrices, show that they are inverses of each other.</b></p> <p>Example: Show that the given matrices are inverses of each other.</p> $  \begin{pmatrix} 1 & -3 \\ 1 & -2 \end{pmatrix}  \quad \text{and} \quad  \begin{pmatrix} -2 & 3 \\ -1 & 1 \end{pmatrix}  $ <p><b>Given a matrix, find it's inverse if it exists.</b></p> <p>Example: Find the inverse of the given matrix, if it exists. Verify your answer.</p> $  \begin{pmatrix} 6 & 7 \\ -1 & 9 \end{pmatrix}  $ <p><b>Given a system of equations, use the inverse of the coefficient matrix to solve the problem.</b></p> $  \begin{aligned}  2x + 5y &= 3 \\  x + 3y &= 2  \end{aligned}  $	6

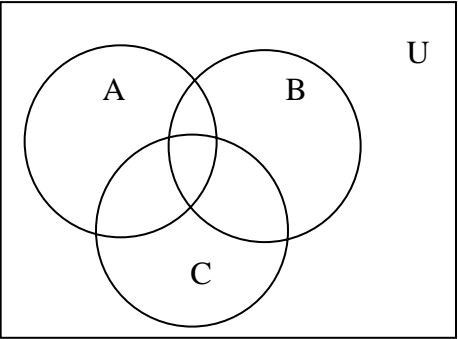
	<p><b>Given a word problem, write it's corresponding system of equations, write the system as a matrix equation and use the inverse of the coefficient matrix to solve the problem.</b></p> <p>Example: A cruise ship charges \$8/adult and \$4/child for a round-trip ticket. On a certain weekend in July, 1,000 people took the cruise on Friday and 800 people took the cruise on Saturday. The total receipts for Friday were \$6,400 and the total receipts for Saturday were \$4,800.</p> <p>a. Write the each system of equations as a matrix equation.</p> <p>b. Determine how many adults and children took the cruise on Friday and Saturday.</p>	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
3.2, 3.3	<p><b>Set up and solve a linear programming problem.</b></p> <p>Example: A company manufactures two products, A and B, on two machines I and II. It has been determined that the company will realize a profit of \$3 on each unit of product A and a profit of \$4 on each unit of product B. To manufacture a unit of product A requires 6 min on machine I and 5 min on machine II. To manufacture a unit of product B requires 9 min on machine I and 4 min on machine II. The company has 5 hours of machine time on machine I and 3 hours of machine time on machine II in each work shift. How many units of each product should be produced in each shift to maximize the company's profit? Set up the linear programming problem then solve it.</p>	6, 7

Chapter.Section	Objective and Examples	Material Covered by End of Week
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5.1, 5.2, 5.3	<p><b>Given a certain math of finance problem, recognize what kind of problem it is and solve it. The kind of problems given will be: simple interest, future value or present value with simple interest, effective rate, future value or present value with compound interest, future value or present value of an annuity, amortization, or sinking fund.</b></p> <p>Example: A company would like to have \$50,000 in 2 years to replace machinery. The account they wish to invest in earns 3.45% per year compounded quarterly. How much should they deposit into this account each quarter to have the desired funds in 2 years?</p> <p>a. What kind of problem is this? b. Solve the problem.</p> <p>Example: Karen has decided to deposit \$300 each month into an account that earns 2.34% per year compounded monthly. How much will she have in this account after 3 years?</p> <p>a. What kind of problem is this? b. Solve the problem.</p>	7, 8, 8

<b>Chapter.Section</b>	<b>Objective and Examples</b>	<b>Material Covered by End of Week #</b>
6.1	<p><b>Given sets, list the subsets and proper subsets of a set. Find the union, intersection and/or complement of certain given sets.</b></p> <p>Example: Let <math>U = \{1,2,3,4,5,6,7,a,b,c,d,e\}</math> <math>A = \{1,2,3,4,5,a,b,c\}</math>, <math>B = \{1,3,5,6,a,c,d\}</math>, and <math>C = \{2,4,7,b,d,e\}</math>, and <math>D = \{1,2,a\}</math></p>	9

	<p>a. List the subsets of D.  b. Find  <math>(A \cup B)</math>  <math>(B^c \cap C) \cup A</math>.</p> <p><b>Use Venn diagram shading to find the union, intersection and/or complement of certain given sets.</b></p> <p>Example: Given the following Venn diagram, shade the given set.  <math>(C \cap B^c) \cup A^c</math></p> 	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
6.2	<p><b>Find the number in sets by using formulas or Venn diagram shading.</b></p> <p>Example: Of 30 elementary school children, 15 read a book last summer, 17 practiced math last summer and 7 read a book and practiced math last summer.</p> <p>How many of the 30 children:</p> <p>a. did not read a book last summer?  b. read a book but did not practice math last summer?</p>	10

	c. did not read a book and did not practice math last summer?	
<b>Chapter.Section</b>	<b>Objective and Examples</b>	<b>Material Covered by End of Week #</b>
6.3, 6.4	<p><b>Solve word problems by using counting technique(s) such as the multiplication principle, combination or permutation.</b></p> <p>Example: A coin is tossed 20 times, how many outcomes are there?</p> <p>Example: In how many ways can you arrange 3 different pictures from 5 available on a wall from left to right?</p> <p>Example: In how many ways can you choose 3 mystery books from a collection of 15 mystery books and 5 romance books from a collection of 20 romance books?</p>	10, 11

<b>Chapter.Section</b>	<b>Objective and Examples</b>	<b>Material Covered by End of Week #</b>
7.1, 7.2	<p><b>Given a set of data or a certain experiment, list the simple events, find the probability of each of the simple events, find the probability distribution, and find the probability of an event that consists of more than one simple event.</b></p> <p>Example: A pair of dice is cast. List the simple events. Assign probabilities to each of the simple events. Find the probability distribution of the experiment. Find the probability that the sum of the numbers is even.</p>	11, 11

Chapter.Section	Objective and Examples	Material Covered by End of Week #
7.3	<p><b>Given a word problem, use formulas or Venn diagram shading to find the probability of the union, intersection and/or complement of certain events.</b></p> <p>Example: Of 30 elementary school children, 15 read a book last summer, 17 practiced math last summer and 7 read a book and practiced math last summer.</p> <p>What is the probability that a child selected at random</p> <ol style="list-style-type: none"> <li>did not read a book last summer?</li> <li>read a book but did not practice math last summer?</li> <li>did not read a book and did not practice math last summer?</li> </ol>	11

Chapter.Section	Objective and Examples	Material Covered by End of Week #
7.4	<p><b>Use counting techniques to find the probability of certain events.</b></p> <p>Example: A box contains 25 batteries of which 5 are defective. A random sample of 4 is chosen. What is the probability that at least 2 are defective?</p>	12

Chapter.Section	Objective and Examples	Material Covered by End of Week #
7.5	<b>Use the conditional probability formula or tree</b>	12

	<p><b>diagrams to aid in finding certain probabilities.</b></p> <p>Example: A group of senators is comprised of 48 Democrats and 52 Republicans. Seventy-one percent of the Democrats served in the military, whereas 68% of the Republicans served in the military. What is the probability that a senator chosen at random</p> <ol style="list-style-type: none"> <li>is Republican?</li> <li>Is a Democrat and did not serve in the military?</li> <li>served in the military?</li> <li>did not serve in the military, given that he/she is a Democrat?</li> </ol> <p><b>Given that certain events are independent, find the probability of the intersection of those independent events.</b></p> <p>Example: If A and B are independent events and <math>P(A)=0.4</math> and <math>P(B)=0.6</math>, find <math>P(A \cup B)</math>.</p>	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
7.6	<p><b>Use tree diagrams and Bayes' formulas to find certain conditional probabilities.</b></p> <p>Example: A group of senators is comprised of 48 Democrats and 52 Republicans. Seventy-one percent of the Democrats served in the military, whereas 68% of the Republicans served in the military. What is the probability that a senator chosen at random is a Republican, given that he/she served in the military?</p>	13

Chapter.Section	Objective and Examples	Material Covered by End of Week #
8.1	<p><b>Given a probability distribution, find certain probabilities and draw a histogram associated with the given probability distribution. Construct the probability distribution of a random variable.</b></p>	13

	<p>Example: The probability distribution of the random variable <math>X</math> is shown below.</p> <table border="1" style="margin: auto;"> <thead> <tr> <th style="border-right: 1px solid black;"><math>x</math></th> <th><math>P(X=x)</math></th> </tr> </thead> <tbody> <tr> <td style="border-right: 1px solid black;">1</td> <td>0.2</td> </tr> <tr> <td style="border-right: 1px solid black;">2</td> <td>0.3</td> </tr> <tr> <td style="border-right: 1px solid black;">3</td> <td>0.5</td> </tr> </tbody> </table> <p>a. Find <math>P(1 &lt; X \leq 3)</math>.</p> <p>b. Draw the histogram corresponding to the given probability distribution.</p>	$x$	$P(X=x)$	1	0.2	2	0.3	3	0.5	
$x$	$P(X=x)$									
1	0.2									
2	0.3									
3	0.5									
	<p>Example: Given the following frequency table, construct the probability distribution associated with the random variable <math>X</math>.</p> <table border="1" style="margin: auto;"> <thead> <tr> <th style="border-right: 1px solid black;"><math>x</math></th> <th><math>P(X=x)</math></th> </tr> </thead> <tbody> <tr> <td style="border-right: 1px solid black;">1</td> <td>45</td> </tr> <tr> <td style="border-right: 1px solid black;">2</td> <td>20</td> </tr> <tr> <td style="border-right: 1px solid black;">3</td> <td>32</td> </tr> </tbody> </table>	$x$	$P(X=x)$	1	45	2	20	3	32	
$x$	$P(X=x)$									
1	45									
2	20									
3	32									

Chapter.Section	Objective and Examples	Material Covered by End of Week #
8.2	<p><b>Find the expected value of a given probability distribution or of a word problem.</b></p> <p>Example: The following probability distribution tables describes the number of cars, <math>x</math>, that a certain car dealer will sell in a given day along with its</p>	13

	<p>associated probability.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="border-right: 1px solid black; border-bottom: 1px solid black;"><math>x</math></th> <th style="border-bottom: 1px solid black;"><math>P(X=x)</math></th> </tr> </thead> <tbody> <tr> <td style="border-right: 1px solid black;">1</td> <td>0.2</td> </tr> <tr> <td style="border-right: 1px solid black;">2</td> <td>0.3</td> </tr> <tr> <td style="border-right: 1px solid black;">3</td> <td>0.5</td> </tr> </tbody> </table> <p>Find the expected number of cars the car dealer will sell in a given day.</p> <p><b>Given a word problem, find the odds in favor, odds against or given the odds find a certain probability.</b></p> <p>Example: The odds in favor of an event occurring are 4 to 5. What is the probability of the event not occurring?</p>	$x$	$P(X=x)$	1	0.2	2	0.3	3	0.5	
$x$	$P(X=x)$									
1	0.2									
2	0.3									
3	0.5									

Chapter.Section	Objective and Examples	Material Covered by End of Week #								
8.3	<p><b>Given a probability distribution or a word problem, find the variance and standard deviation.</b></p> <p>Example: Given</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="border-right: 1px solid black; border-bottom: 1px solid black;"><math>x</math></th> <th style="border-bottom: 1px solid black;"><math>P(X=x)</math></th> </tr> </thead> <tbody> <tr> <td style="border-right: 1px solid black;">1</td> <td>0.2</td> </tr> <tr> <td style="border-right: 1px solid black;">2</td> <td>0.3</td> </tr> <tr> <td style="border-right: 1px solid black;">3</td> <td>0.5</td> </tr> </tbody> </table> <p>Find the variance and standard deviation.</p> <p><b>Use Chebychev's inequality to estimate a certain probability.</b></p> <p>Example: The expected lifetime of a certain machine is 24 mo and the standard deviation is 3 mo. Use Chebychev's inequality to estimate the probability that one of these machines will last</p>	$x$	$P(X=x)$	1	0.2	2	0.3	3	0.5	14
$x$	$P(X=x)$									
1	0.2									
2	0.3									
3	0.5									

	between 20 and 28 mo.	
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<b>Chapter.Section</b>	<b>Objective and Examples</b>	<b>Material Covered by End of Week #</b>
8.4	<p><b>Given a binomial experiment, find certain probabilities, the mean, the variance, and the standard deviation.</b></p> <p>Example: The probability that a certain CD player will be defective is 0.04. If a sample of 15 CD players is chosen at random, what is the probability that the sample contains</p> <ol style="list-style-type: none"> <li>no defective CD players?</li> <li>at most 3 defective CD players?</li> <li>Find the mean, variance and standard deviation of this experiment.</li> </ol>	14

<b>Chapter.Section</b>	<b>Objective and Examples</b>	<b>Material Covered by End of Week #</b>
8.5	<p><b>Given a standard normal distribution, find certain probabilities or given the probability find the value of z.</b></p> <p>Example: Let Z be a standard normal random variable. Find:</p> <ol style="list-style-type: none"> <li><math>P(Z &lt; 1.34)</math></li> <li><math>P(Z &gt; -2.33)</math></li> <li><math>P(-0.23 &lt; Z &lt; 1.22)</math></li> </ol> <p>Example: Let Z be a standard normal random variable. Find the value of z if:</p> <ol style="list-style-type: none"> <li><math>P(Z &gt; z) = 0.8749</math></li> <li><math>P(-z &lt; Z &lt; z) = 0.4908</math></li> </ol> <p><b>Given a normal distribution, possibly a word problem, standardize it to find certain probabilities.</b></p> <p>Example: Let X be a normal random variable. The</p>	15

	<p>mean is 25 and the standard deviation is 4. Find:</p> <p>a. <math>P(X &lt; 30)</math></p> <p>b. <math>P(X &gt; 10)</math></p> <p>c. <math>P(15 &lt; X &lt; 25)</math></p>	
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Chapter.Section	Objective and Examples	Material Covered by End of Week #
8.6	<p><b>Use the normal distribution to approximate a binomial distribution.</b></p> <p>Example: Use the normal distribution to approximate the following binomial distribution. A biased coin is tossed 100 times. The probability of obtaining a head is 30%. What is the probability that the coin will land heads at least 90 times?</p>	15