

MATH 111 EXAM 1, Fall 2004

Show all work!		Name:	Score		
1.	Given the points $P(-3, 5)$ and $Q(1, 8)$ , find: a) The distance $d(P, Q)$ .          Ans: _____		b) The slope of the segment $\overline{PQ}$          Ans: _____	1	
				2	
				3	
				4	
				5	
				6	
				7	
				8	
2.	a) Solve for $x$ : $4x - 2 = 2x + 5$ .          Ans: _____		b) Solve for $y$ : $(y + 4)(y - 5) = (y - 1)^2$ .          Ans: _____	9	
				10	
				Tot	
3.	Solve the Equations: a) $3x^2 + 5x + 2 = 0$          Ans: _____		b) $x^2 + x - 1 = 0$          Ans: _____		
4.	Find the equations of the lines passing through: a) The points $(2, -2)$ and $(3, 1)$ .          Ans: _____		b) The point $(1, 2)$ and $\parallel$ to $4x + 2y = 5$ .          Ans: _____		
5.	a) Find the real solutions of: $1 + \sqrt{10 - 2x} = x$ .          Ans: _____		b) Solve: $x^4 - 5x^2 + 4 = 0$          Ans: _____		
Extra Space					

6.	<p>How many pounds of \$2.70/lb tea should be mixed with 20 pounds of \$5.20/lb tea to get a mixture that will sell for \$4.50/lb with no change in profit.</p>	Ans: _____
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7.	<p>Solve the following inequalities:</p> <p>a) <math>-2 &lt; 4 - 2x &lt; 8</math>.</p>	<p>b) <math> x - 6  \geq 3</math>.</p>
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8.	<p>Let <math>f(x) = \sqrt{8 - x}</math>. Find:</p> <p>a) The domain of <math>f</math>.</p>	<p>b) <math>f(x + 4)</math>.</p>
Ans: _____.		Ans: _____.

9.	<p>Using the following data</p> <table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px 5px;">x</td> <td style="padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">2</td> <td style="padding: 2px 5px;">3</td> <td style="padding: 2px 5px;">4</td> <td style="padding: 2px 5px;">5</td> <td style="padding: 2px 5px;">6</td> <td style="padding: 2px 5px;">7</td> <td style="padding: 2px 5px;">8</td> </tr> <tr> <td style="padding: 2px 5px;">y</td> <td style="padding: 2px 5px;">3.5</td> <td style="padding: 2px 5px;">5.9</td> <td style="padding: 2px 5px;">9.6</td> <td style="padding: 2px 5px;">11.6</td> <td style="padding: 2px 5px;">14.0</td> <td style="padding: 2px 5px;">18.7</td> <td style="padding: 2px 5px;">20.9</td> <td style="padding: 2px 5px;">24.8</td> </tr> </table> <p>a) Find the equation of the best fit line</p>	x	1	2	3	4	5	6	7	8	y	3.5	5.9	9.6	11.6	14.0	18.7	20.9	24.8	<p>b) What is the predicted value at <math>x = 12</math>.</p>
x	1	2	3	4	5	6	7	8												
y	3.5	5.9	9.6	11.6	14.0	18.7	20.9	24.8												
Ans: _____.		Ans: _____.																		

10.	<p>Let <math>f(x) = -3x^2 + 12x - 5</math>. Find:</p> <p>a) The vertex.</p>	<p>b) The maximum value.</p>
Ans: _____.		Ans: _____.

	Extra Space
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