MATH 1010 Midterm A February 7, 2008

	Instructions: 1. Answer all questions on the machine-scored answer sheet provided. Use pencil only. 2. Return examination paper with machine-scored answer sheet. 3. Single-line display calculators permitted. No other aids permitted. 4. Fill in the information requested below. 5. The examination invigilators may not interpret or explain questions to you. 6. Fill in your student number on the machine-scored sheet and encode it as well.
	FAMILY NAME FIRST NAME
	STUDENT NUMBER
	SIGNATURE
	INSTRUCTOR
	INSTRUCTOR
1.	What is are the solution of the equation $3(1-2x)-2(x+1)=-23$?
	(a) -3 (b) 6 (c) -6 (d) 3 (e) None of these
2.	What is are the solution of the equation $-1 + \frac{1}{3}(x+2) = x - \frac{3-x}{2}$?
	(a) 7 (b) -7 (c) 1 (d) -1 (e) $\frac{3}{7}$
3.	What is are the solution of the equation $4(1-\frac{1}{2}x)+3(2-\frac{1}{2}x)=10-3x$?
	(a) $\frac{7}{2}$ (b) $\frac{-13}{2}$ (c) $\frac{-1}{2}$ (d) 0 (e) All real numbers
4.	Which of the following inequalities is equivalent to $-2(1-x) + 3(2x+1) \le -x + 13$?
	(a) $x \le \frac{3}{4}$ (b) $x \le \frac{4}{3}$ (c) $x \ge \frac{4}{3}$ (d) $x \ge \frac{-3}{4}$ (e) $x \le \frac{14}{9}$
5.	Which of the following inequalities is equivalent to $\frac{x}{7} + x - 1 \ge \frac{x-1}{7}$?
	(a) $x \ge \frac{6}{7}$ (b) $x \le \frac{6}{7}$ (c) $x \ge \frac{-6}{7}$ (d) $x \le \frac{-7}{6}$ (e) $x \ge \frac{2}{3}$
6.	What is the equation of the vertical line through the origin?
	a) $y=0$ (b) $x=0$ (c) $x+y=0$ (d) $x=0$ and $y=0$ (e) none of these
7.	What is the x-coordinate of the point on the line $4 - 2x + 5y = 0$ whose y-coordinate is 2?
	(a) 2 (b) -7 (c) 3 (d) 7 (e) $\frac{2}{5}$
. 8.	What is the slope of the line $\frac{4-9x}{9} - y = 1$?
	a) -1 (b) 1 (c) $\frac{4}{9}$ (d) $\frac{-9}{4}$ (e) 9
9.	What is the equation of the line through the points $(0,2)$ and $(1,2)$?
	(a) $y=4x-6$ (b) $y=-4x+6$ (c) $y=2$ (d) $x=1$ (e) There is no such line
10.	What is the equation of the line through the origin and perpendicular to the line $y=-2x+1$?
	(a) $x - 2y = 0$ (b) $2x - y = 0$ (c) $y + 2x = 0$ (d) $y = \frac{1}{2}x + 1$ (e) None of these
11.	What is the equation of the line through the point $(2,-1)$ and parallel to the line $3x+y=6$?
	(a) $y = 3x - 7$ (b) $y = -3x + 4$ (c) $y = -3x + 5$ (d) $y = 3x + 6$ (e) None of these
12.	What is the point of intersection of the lines $3x - 2y = 23$ and $4x + 3y = 8$?
	(a) $(2,0)$ (b) $(0,\frac{-23}{2})$ (c) $(-4,5)$ (d) $(5,-4)$ (e) There is no intersection

13. What is the slope of the line whose x and y intercepts are both 3? a) 3 (b) -3 (c) 1 (d) -1 (e) $\frac{1}{3}$

 to the line x = 4y - 10? (a) y = 4x - 2 (b) y = -4x + 2 None of these 15. If x ≥ 0 and y ≥ 0 appear among other inequivalents is always true? (a) Every point of the first quadrant is a feasi (b) Feasible set is part of the first quadrant. (c) (0,0) is always a corner point of the feasible (d) Feasible set is a polygon in the first quadrant. 16. Which of the following statements best described to the feasible set is a polygon in the first quadrant. (a) All points above the line x + y = 3, to the (c) All points between the x-axis, the y-axis and (d) All points in the first quadrant below the (e) None of these. Renting a car from company A costs \$93 \$ 100 plus 8 cents per kilometer. Answ 17. Which company is cheaper if we plan to drive (a) Company A (b) Company B 18. Which company is cheaper if we plan to drive (a) Company A (b) Company B 19. Which company is cheaper if we plan to drive (a) Company A (b) Company B 20. If a feasible set is a polygon with the corner and minimum values of the objective function (a) Max. P = 7, Min. P = 0 (b) Max. (d) Min. P = 12, There is no maximum 21. The optimum value of the objective function (a) True (b) False A feasible set is described by the follow x + 3y ≤ 9, x + y Answer question 22-25: 22. Which one of the following points is a corner (a) (3, 2) (b) (0, 2) (c) (4, 2) 23. How many corner points does the feasible set (a) 1 (b) 2 (c) 3 (d) 4 24. Which of the points (2, 2), (0, 1), (4, 2) are in (a) (2, 2), (4, 2) only (b) (2, 2), (0, 1) (e) none of the points 25. What is the minimum value of the objective functions 	
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 (d) Min. P = 12, There is no maximum 21. The optimum value of the objective function in the optimum value of the following value in the objective in the optimum value of the optimum value of the optimum value of the optimum value of the optimum value o	points $(0,0)$, $(2,0)$, $(\frac{1}{2},\frac{1}{2})$, $(0,5)$; what are the maximum a $P=4x+6y+7$ over this feasible set?
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(e) none of the points 25. What is the minimum value of the objective in the control of the con	the feasible set?
() - ()	only (c) $(0,1)$, $(4,2)$ only (d) all three points
(a) 0 (b) 5 (c) -4 (d)	function $P = 2x - 3y + 5$ over this feasible set?
	13 (e) 10