

Quiz 1 for Mathematics 223
Introductory Analysis I - Fall 1999
Material Covered: Sections 1.3,1.4 of workbook and text
For: 10th September

This is a 15 minute quiz, worth 6% and marked out of 6 points. The total possible points awarded for each question is given in square brackets at the beginning of each question. Anything that can fit on one side of an $8\frac{1}{2}$ by 11 inch piece of paper may be used as a reference during this quiz. A calculator may also be used. No other aids are permitted.

Name (please print): _____ . **ID Number:** _____
last first

1. Write an equation (in the form $ax + by = c$) of the line

(a) [2] through $(1, -3)$ and which is parallel to the line $3y = -x + 4$. (circle one)

- 1. $x + 3y = -2$
- 2. $3x + y = -2$
- 3. $3x + 3y = -2$
- 4. $3x + y = 2$
- 5. $x + 3y = 2$

(b) [2] through $(1, -3)$ and which passes through the
 intersection of $x + 2y = -1$ and $3x + y = 7$ _____.

(c) [2] through $(1, -3)$ and is
 perpendicular to $-x + 3y = 5$ _____.

- (a) [2] i: $x + 3y = -2$
since $y = -\frac{1}{3}x + \frac{4}{3}$, $m = -\frac{1}{3}$ and so $y + 3 = -\frac{1}{3}(x - 1)$
- (b) [2] $\frac{1}{2}x - y = 3.5$
intersection of $x + 2y = -1$ and $3x + y = 7$ is $(x, y) = (3, -2)$
 $m = \frac{\Delta y}{\Delta x} = \frac{-3+2}{1-3} = \frac{1}{2}$
and so $y + 3 = \frac{1}{2}(x - 1)$
- (c) [2] $-3x - y = 0$
since $-x + 3y = 5$ is $y = \frac{1}{3}x + \frac{5}{3}$, $m = \frac{1}{3}$ and perpendicular $m = -\frac{1}{1/3} = -3$
and so $y + 3 = -3(x - 1)$