

# MATH 151 SAMPLE TEST 1

Time Allowed 20 Minutes

On the test there will be two questions (similar to the questions given below) asked from each of the following five topics:

## *Arithmetic*

Evaluate each expression:

1.  $4 - (3 - 5) =$

3.  $4 - 2(-3) =$

2.  $(-8) \div (-2) =$

4.  $(3 - (-2)) \div (2 - 7) =$

## *Linear equations*

Solve the following for  $x$

5.  $3(x - 2) = 9$

7.  $\frac{x}{2} + \frac{3x}{5} = 2.2$

6.  $\frac{6}{x} = 2$

8.  $\frac{2+x}{2-x} = 3.$

## *Simultaneous equations*

Solve the following pairs of simultaneous equations.

9.  $x + 2y = 7$   
 $3x - 2y = -3$

10.  $x + 2y = -4$   
 $5x + 2y = 4$

Where do the following lines intersect?

11.  $2x + 3y = 4$   
 $x - y = -3$

12.  $2x - 5y = -8$   
 $5x + 2y = 9$

## *Slopes of lines*

Find the slope of the line joining

13.  $(1, 2)$  and  $(4, 8)$

14.  $(-1, -2)$  and  $(2, 5).$

Find the slope of line

15.  $2y - 3x = 5$

16.  $5x + 3y = 6.$

## *Equations of lines*

Find the equation of each of the following lines in the form  $y = mx + c$ .

17. The line with slope 2 passing through the point  $(2, 1)$ .

18. The line joining the two points  $(1, 2)$  and  $(2, 4)$ .

19. The line with  $y$ -intercept 3 which is parallel to the line  $y = -2x + 5$ .

20. The line with  $y$ -intercept 5 which is perpendicular to the line  $y = \frac{1}{3}x - 2$ .