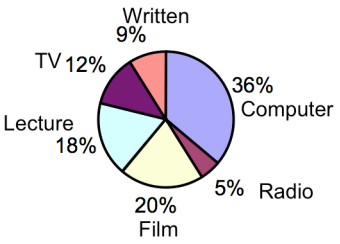
MATH 151 SAMPLE EXAM 3 Name: _____

Chapter 3

1. In a school survey, students showed these preferences for instructional materials. Suppose 5000 students took the survey and 55% of students who prefer computer are male. How many male students would you expect to prefer computer?



2. In which quadrant is each point located?

a) (3, –6) b) (–2, –5)

3. Consider the equation $5x + 2y = 10$.

a) Find the *x*- and *y*-intercepts of the graph of the equation. *x*-int:_____ *y*-int: _____

b) Graph the equation using the information from part (a).

4. Consider the equation $3x - 4y = 12$.

Find the slope and y-intercept of the equation. Slope: _____ y-int: _____

5. Graph each equation.

a) $y = -3x$ b) $y = 5$ c) $y = \frac{2}{3}x - 5$

6. Find the slope of each of the following.

a) a horizontal line passing through the point (2, –3)

b) a line connecting the two points (–1, –4) and (5, 2)

c) a line perpendicular to the line $y = -\frac{3}{4}x + 3$

d) a line parallel to the line $y = -x + 3$

7. Write an equation of each line in slope-intercept form. (5 pt each)

a) a line whose slope is $m = -7$ and the y-intercept is $\left(0, -\frac{3}{5}\right)$

b) a line whose slope is $m = -\frac{2}{3}$ and passing through (–6, 2)

c) a line passing through (3, 7) and (–6, 1)

8. Write an equation of the line passing though (-2, 6) and having the slope 0.

9. A typist for Kelly services reports to 3E's Properties for work at 10:00AM and leaves at 6:00PM after having typed from the end of page 8 to the end of page 50 of a proposal. 3E's pay $120 for the typist's services.

a) Find the rate of pay, in dollars per hour.

b) Find the average typing rate, in number of pages per hour.

c) Find the rate of pay, in dollars per page.

10. In August 1999, the classified ads for used cars listed a 3-year old Cadillac for $19,000 and a 12-year old Cadillac for $5,500. Assume that the depreciation is linear. (4 pt each)

a) Write a linear equation that gives the value of the car, *V*, for the age of the car *x*.

b) Use your equation to find the value of a 4-year old Cadillac.

c) How old would a Cadillac be if its value was $13,000?