Some Formulas to Know for Exam 1

Discounts:
Selling Price = List Price - Discount
Discount = Discount Rate $\times$ List Price

Distance between two points, (x_1, y_1) and (x_2, y_2)
$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Slope of a line between two points, (x_1, y_1) and (x_2, y_2)
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Equation of a line whose slope is m and $y-$intercept is b (Slope-intercept form)
$$y = mx + b$$

Equation of a line whose slope is m that passes through the point (x_1, y_1) (Point-slope form)
$$y - y_1 = m(x - x_1)$$

Cramer's Rule
The system of linear equations

$$\begin{cases} a_1x & + & b_1y & = & c_1 \\ a_2x & + & b_2y & = & c_2 \end{cases}$$

has solutions:

$$x = \frac{\begin{vmatrix} c_1 & b_1 \\ c_2 & b_2 \end{vmatrix}}{\begin{vmatrix} a_1 & b_1 \\ a_2 & b_2 \end{vmatrix}}$$

$$y = \frac{\begin{vmatrix} a_1 & c_1 \\ a_2 & c_2 \end{vmatrix}}{\begin{vmatrix} a_1 & b_1 \\ a_2 & b_2 \end{vmatrix}}$$