Formulas needed for 2nd Exam

Quadratic Formula: $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Square Root Property: If $x^2 = k,$ then $x = \pm\sqrt{k}$

Distance Formula: $d = rt$ or $t = \dfrac{d}{r}$ or $r = \dfrac{d}{t}$

Job Formula: $\dfrac{1}{a} + \dfrac{1}{b} = \dfrac{1}{x}$ where a and b are times for a single person or machine alone and x is time together.

Distance formula: $d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

Midpoint formula:

If (x_1, y_1) and (x_2, y_2) are points, then the midpoint is $\left(\dfrac{x_1 + x_2}{2}, \dfrac{y_1 + y_2}{2}\right)$

Slope formula: $y = \dfrac{y_2 - y_1}{x_2 - x_1}$

General Form:

$Ax + By = C$ where $A, B,$ and C are integers and $A > 0$

Point-Slope Form: $y - y_1 = m(x - x_1)$

Slope-Intercept Form: $y = mx + b$

Direct Variation: $y = kx$

Inverse Variation: $y = \frac{k}{x}$

Joint Variation: $y = kwx$

Combined Variation: $y = \frac{kw}{x}$