Other Formulas

Slope (p. 235)	The slope m of a nonvertical line passing through the two points (x_1, y_1) and (x_2, y_2) is $m = \frac{y_2 - y_1}{x_2 - x_1}$.
Compound interest (p. 523)	$y = a(1 + r)^t$ where y is the account balance, a is the initial investment, r is the annual interest rate (in decimal form), and t is the time in years.
Quadratic formula (p. 671)	The real-number solutions of the quadratic equation $ax^2 + bx + c = 0$ are $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ where $a \neq 0$ and $b^2 - 4ac \geq 0$.
Distance formula (p. 744)	The distance d between any two points (x_1, y_1) and (x_2, y_2) is $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.
Midpoint formula (p. 745)	The midpoint M of the line segment with endpoints $A(x_1, y_1)$ and $B(x_2, y_2)$ is $M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$.
Theoretical probability (p. 844)	The probability of an event when all the outcomes are equally likely is $P(\text{event}) = \frac{\text{Number of favorable outcomes}}{\text{Total number of outcomes}}$.
Experimental probability (p. 844)	For repeated trials of an experiment, the probability of an event is $P(\text{event}) = \frac{\text{Number of successes}}{\text{Number of trials}}$.
Permutations (p. 852)	The number of permutations of n objects taken r at a time, where $r \leq n$, is given by ${}_nP_r = \frac{n!}{(n - r)!}$.
Combinations (p. 856)	The number of combinations of n objects taken r at a time, where $r \leq n$, is given by ${}_nC_r = \frac{n!}{(n - r)! \cdot r!}$.
Probability of mutually exclusive or overlapping events (p. 861)	If A and B are mutually exclusive events, then $P(A \text{ or } B) = P(A) + P(B)$. If A and B are overlapping events, then $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$.
Probability of independent or dependent events (p. 862)	If A and B are independent events, then $P(A \text{ and } B) = P(A) \cdot P(B)$. If A and B are dependent events, then $P(A \text{ and } B) = P(A) \cdot P(B \text{ given } A)$.