Name_____ Date: _____

Equations & Inequality Test Review
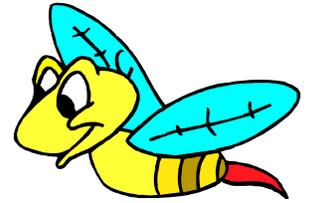
Steps for solving equations:

1) Remove all parentheses by using the distributive property.
2) Combine like terms that occur on the same side of the equations.
3) Perform +/-
4) Perform ×/÷

Solving Inequalities is the same as solving an equation. You use the same steps as equations, but the only difference is if you multiply or divide by a negative number you must **_FLIP_** the inequality sign so the opening goes the other way.

Remember: When you graph the answer to the inequality, if the sign is < or > the circle is <u>not shaded</u> and if the sign is ≤ or ≥ the circle is <u>shaded</u>.

Review Sheet

1) $-9 + 2x < 3x$	2) $3x + 6 \geq 4x$	3) Write an inequality to represent: Ten is no more than four less than a number.
4) Graph the following: $x > 3$ or $x \leq -2$	5) Graph the following: $-2 < x \leq 1$	6) Translate the verbal expression into an algebraic inequality, solve an graph your answer: The sum of twice a number and 5 is at most 3 less than a number.

Represent each of the following as an algebraic inequality.

1) x is <u>at most</u> 30   _____

2) the sum of 5x and 2x is <u>at least</u> 14   _____

3) the product of x and y is <u>less than or equal to</u> 4   _____

4) 5 less than a number y is <u>under</u> 20   _____

1st: Read carefully and <u>underline key words</u>
2nd: Write a let statement
3rd: Determine whether to use =, <, ≤, >, or ≥
4th: Write and solve the inequality

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5) If 5 times a number is increased by 4, the result is at least 19. Find the least possible number that satisfies these conditions.

6) The sum of twice a number and 5 is at most 15. What are the possible values for the number?

7) The Amigo Company opened a new branch in Aylmer.   Their staff consists of: 20 Regular employees, a Manager, an Assistant Manager, and a Supervisor. The weekly salary of the Manager is $200 less than twice that of one Regular employee. The Assistant Manager and Supervisor, each makes $200 more a week than one Regular employee. The combined weekly salaries of all the staff is equal to $600 more than 14 times the Manager's weekly salary.

What is the weekly salary of a regular employee? Show all your work neatly.