"He who learns but does not think, is lost!
He who thinks but does not learn is in great danger."
-Confucius

Recall from last time the following identities:

(1)	Difference of Squares:	$a^2 - b^2 = (a + b)(a - b)$
(2)	Difference of Cubes:	$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$
(3)	Sum of Cubes:	$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$
(4)		$(a + b)^2 = a^2 + 2ab + b^2$
(5)		$(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$

Solve using the key number method. Write the solution in interval notation.

1. $(x + 2)(x - 3) > 0$

2. $x^2 - 9 \leq 0$

3. $(x - 1)(x + 4)(2x + 1) \geq 0$

4. $x(x + 1) \leq 2$

5. $\dfrac{x(x - 1)}{(x + 3)(x + 5)} \geq 0$

6. $\dfrac{x^2 - 1}{x^2 - 5x + 6} < 0$

7. $\dfrac{x}{x + 1} > 1$

8. $x + \dfrac{3}{x - 1} \leq 5$