

# Let's Look at Those Roots!



Name \_\_\_\_\_

*The roots can be determined algebraically or graphically. The choice is yours unless told otherwise. Show any algebraic work on the back. Hint: All are factorable.*

Complete the following chart.

Quadratic Equation	Write in the form: $ax^2 + bx + c = 0$	List: $a, b, c$	Root: $r_1$	Root: $r_2$	Sum: $r_1 + r_2$	Product: $r_1 \cdot r_2$
1. $x^2 + 8x = -15$		$a =$ $b =$ $c =$				
2. $x^2 = 4 - 3x$		$a =$ $b =$ $c =$				
3. $20 = (x - 3)(x - 2)$		$a =$ $b =$ $c =$				
4. $4x(x + 1) = -1$		$a =$ $b =$ $c =$				
5. $2x^2 = 17x + 9$		$a =$ $b =$ $c =$				
6. $3(2x^2 - 1) = -7x$		$a =$ $b =$ $c =$				

**Conjecture:** Find the relationship between the **sum** of the roots and the values of  $a$  and  $b$ .

**Conjecture:** Find the relationship between the **product** of the roots and the values of  $a$  and  $c$ .