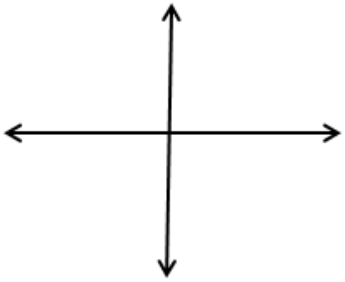
Algebra 2 Name:_____

Finding the roots of Polynomials

Find the remaining roots for the following polynomials and rewrite in factored form. Sketch a graph for problems 1-4:

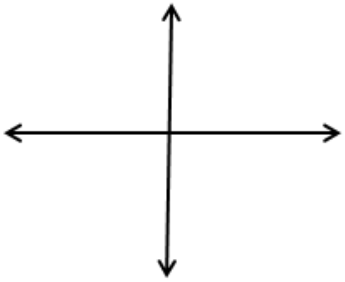
1. $f(x) = x^3 + 3x^2 - 10x - 24$

$x = 3$ *is a root*



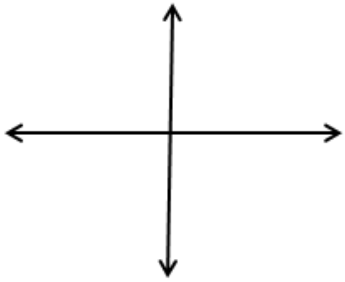
2. $f(x) = x^3 - 27x + 54$

$x = 3$ *is a root*



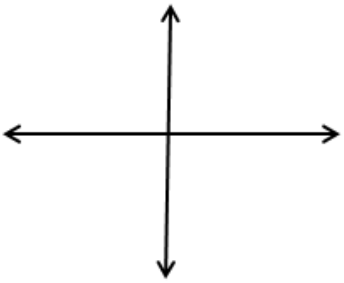
3. $f(x) = x^3 - 5x^2 - 17x + 21$

$x = 7$ *is a root*



4. $f(x) = x^4 + 2x^3 - 23x^2 + 12x + 36$

$x = 2$ *and* $x = 3$ *are roots*



5. $f(x) = 6x^3 + 11x^2 - 57x - 20$

$x = -4$ *is a root*

6. $f(x) = x^3 - 3x^2 - 8x - 10$

$x = 5$ *is a zero*

7. $f(x) = x^3 + 5x^2 + x - 10$

$x = -2$ *is a root*

*8. $f(x) = x^3 - 8x^2 + x - 8$

factor by grouping.