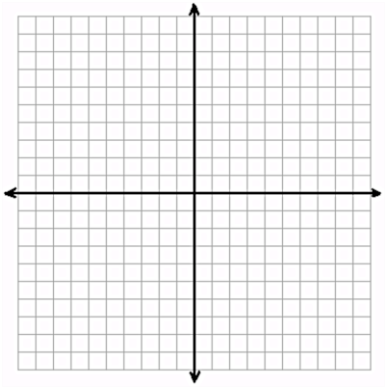
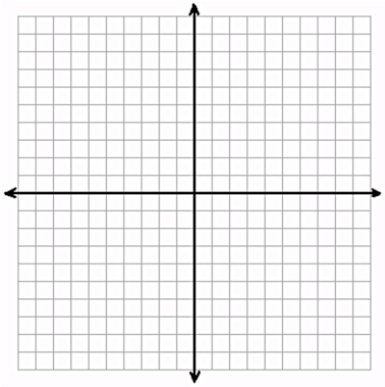
Name: _____ Hour _____ Date _____

For each of the equations below, determine the degree, end behavior, and x-intercepts. Graph the equation.
On your graph, label any *relative/local maximum/minimum.* CHECK YOUR WORK WITH A CALCULATOR.

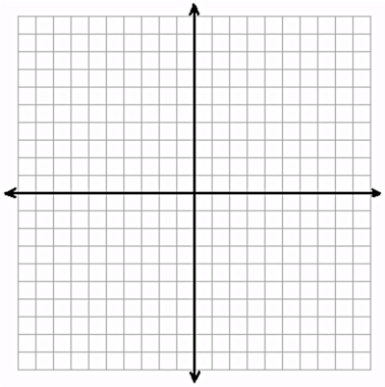
1. $f(x) = (x+3)(x-1)(x-6)^2$
Degree: _____
End Behavior:
x-intercepts (with multiplicity):
_____



2. $f(x) = -(x+4)(x-1)^2$
Degree: _____
End Behavior:
x-intercepts (with multiplicity):
_____



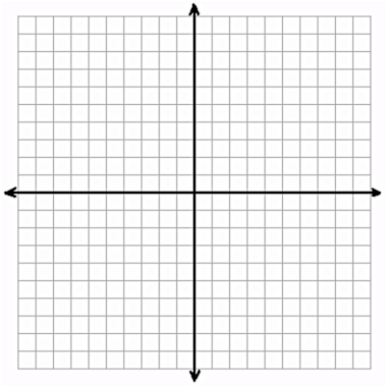
3. $f(x) = (x+2)^2(x-1)$
Degree: _____
End Behavior:
x-intercepts (with multiplicity):
_____



For the following equations, FACTOR. Then follow the same procedure as above to graph. Label relative maximum/minimum.

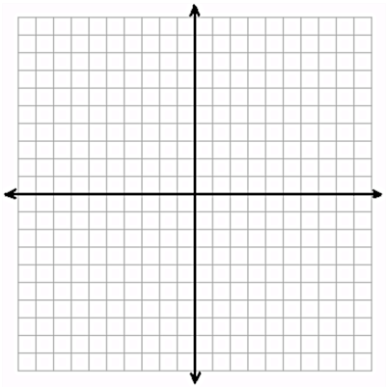
4. $f(x) = x^3 + 8x^2 + 9x - 18$ if $(x+3)$ is a factor.

Degree: _____
End Behavior:
x-intercepts (with multiplicity):
_____
y-intercept: _____



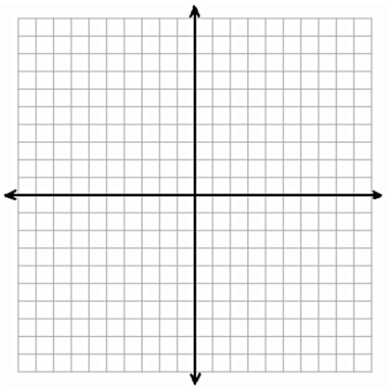
5. $f(x) = x^3 - 7x + 6$ if $(x - 2)$ is a factor.

Degree: _____
End Behavior:
x-intercepts (with multiplicity):
_____
y-intercept: _____



6. $f(x) = x^4 - 12x^2 - 16x$ if $(x - 4)$ is a factor.
(Hint: What can you do before you divide?)

Degree: _____
End Behavior:
x-intercepts (with multiplicity):
_____
y-intercept: _____



7. $f(x) = x^3 + 4x^2 - 4x - 16$
if $(x + 4)$ is a factor.

Degree: _____
End Behavior:
x-intercepts (with multiplicity):
_____
y-intercept: _____