Here is your work for today. Grab a fresh sheet of paper. Put your name on it. You will turn this in next week (for Q4).

1. **Given that $(x + 2)$ is a factor of $f(x)$, find the value of a.**
$$f(x) = 2x^3 - 5x^2 + ax + a$$

2. **Show that $(2x + 1)$ is a factor of $g(x)$ and factor $g(x)$ completely. Then, determine all the zeros of $g(x)$.**
$$g(x) = 4x^3 - 7x - 3$$

3. **Given that $x = 2$ is a zero of $h(x)$, completely factor, determine all zeros *and* sketch a graph of $h(x)$.**
$$h(x) = x^3 - 6x^2 + 12x - 8$$