Do Now:

1.  Sketch $P(x) = 3x^3 - x^4$. Include and label x and y intercepts with their coordinates and show the correct end behavior of the function.

2.  When the function $f(x)$ is divided by $2x + 3$, the quotient is $3x^2 - x + 5$ and the remainder is 8. Find the function, $f(x)$, and write the result in standard form.

3.  On which of the following intervals is $P(x) = x^5 + x^2 - 3x - 4$ guaranteed to have a root? Choose all that apply.

    (a)  $(-3, 1)$          (b)  $(1, 2)$          (c)  $(-1, -2)$