INSTRUCTIONS: SHOW YOUR WORK. Grading is on the basis of 10 points per question. You may use books, computers, calculators, etc., but you must show all steps. You may not use any outside human help. Neatness will be “added or subtracted!”

You may write on this page. Do not ever write on the back of a page or in the left margin.

NET #04:

Use synthetic division to perform this division. Show the algorithm. Write your answer in the form

\[ \frac{3x^4 + 7x^3 - 15x - 8}{x - 3} \]

"(dividend) = (divisor) \times (quotient) + (remainder)."

\[
\begin{array}{c|cccc}
& 3 & 7 & 0 & -15 & -8 \\
3 & & 9 & 48 & 144 & 387 \\
\hline
& 3 & 16 & 48 & 129 & 379
\end{array}
\]

1. Work:

2. Answer:

\[ 3x^4 + 7x^3 - 15x - 8 = (x - 3)(3x^3 + 16x^2 + 48x + 129) + 379 \]