

Math 172 – Section 6.5: Synthetic Division (optional!)

Note: the divisor (the thing you are dividing by) must be in the form $x \pm c$, where x is the variable and c is a constant. For example, $x+5$ and $y-3$ are fine, but $2x+1$ and y^2-2 are not.

Steps for doing synthetic division:

1. List the coefficients of the polynomial being divided (the dividend).
2. Be sure to include zeros for any missing terms.
3. When dividing by $x - c$, write c to the left. When dividing by $x + c$, write $-c$ to the left.
4. Bring the first coefficient down.
5. Multiply by c and add for each column.
6. Read the quotient and remainder from the bottom row.