|  |  |
| --- | --- |
| 1. Factor completely: | 2. Factor completely: |
| 3. Factor completely: | 4. Factor completely: |
| 5. Factor completely: | 6. Factor completely: |
| 7. Factor completely: | 8. Factor completely: |
| 9. Factor completely: | 10. Simplify completely: |
| 11. Simplify completely: | 12. Simplify completely: |
| 13. Simplify completely: | 14. Simplify completely: |

|  |  |
| --- | --- |
| 15. For the following graph, find the domain, range, intervals of increase and decrease, extrema, y-intercept, the roots, the axis of symmetry, and the end behavior.  1  Domain:\_\_\_\_\_\_\_\_\_\_\_\_ Range:\_\_\_\_\_\_\_\_\_\_\_\_  INC:\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DEC:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Extrema:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Y-intercept:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Roots:\_\_\_\_\_\_\_\_\_\_\_\_ Axis of Sym:\_\_\_\_\_\_\_\_\_\_ | 16. Sketch a graph with the following characteristics:  Extrema (1, -2)  Increasing  Decreasing    Extrema (3, 2)  Roots at (1, 0) (5, 0) |
| Into which group or groups does each number go?   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Natural | Whole | Integers | Rational | Irrational | Real | Imaginary | Complex | | -11 |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | | 3 – 2i |  |  |  |  |  |  |  |  | | |