QUIZ#06 MATH 022 SECTION 12

Name:

1. What’s the behavior of function $f = -x^2(x + 3)(x - 5)$ when $x \to \infty$ and $x \to -\infty$ respectively
   a) $y \to \infty$, $y \to \infty$
   b) $y \to -\infty$, $y \to \infty$
   c) $y \to \infty$, $y \to -\infty$
   d) $y \to -\infty$, $y \to -\infty$

2. The solution for the inequality $x^3 \leq 14x^2 - 48x$ is
   a) $(-\infty, 0] \cup [6, 8]$
   b) $(-\infty, 8]$
   c) $(0, 6] \cup [8, \infty]$
   d) $[6, 8]$

3. The graph of the function $f(x) = x^2(x - 1)(x + 2)^4$ crosses the x-axis at
   a) (-2, 0), (0, 0)
   b) (-2, 0), (0, 0), (1, 0)
   c) (-2, 0)
   d) (1, 0)

4. The graph of the function $f(x) = x^6 - x^4 + x^2 - 8$ possesses
   a) y-axis symmetry
   b) origin symmetry
   c) symmetry about $x = 1$
   d) none of the above types of symmetry

5. Draw a simple graph function $f(x) = -x^2(x + 2)(x - 2)$. If it has some kind of symmetry, show it in your graph.