1. (24 points – 3 points each) Determine if each of the following assertions is valid. Indicate you answer by clearly circling either TRUE or FALSE.

(a) The collection of pairs \{ (0, 1), (1, 2), (2, 3), (3, 4) \} represents a function.

\[ \text{TRUE} \quad \text{FALSE} \]

(b) The slope of the line given by \( 3y + 6x - 10 = 0 \) is \(-\frac{1}{2}\).

\[ \text{TRUE} \quad \text{FALSE} \]

(c) There are real numbers which are not fractions.

\[ \text{TRUE} \quad \text{FALSE} \]

(d) The following

\[ \text{TRUE} \quad \text{FALSE} \]

is the graph of \( f(x) = -x^2 + 2 \).

(e) The following

\[ \text{TRUE} \quad \text{FALSE} \]

is the graph of \( f(x) = x^3 \).

(f) \((-1)^{10} = 1\).

\[ \text{TRUE} \quad \text{FALSE} \]

(g) If \( m \) is the slope of a line \( \ell \), then \(-m\) is the slope of any line perpendicular to \( \ell \).

\[ \text{TRUE} \quad \text{FALSE} \]

(h) No point on the line \( y = x + 2 \) lies in the third quadrant.

\[ \text{TRUE} \quad \text{FALSE} \]
2. Simplify the following expression:

\[ 3 \left( (x - 1)^2 + 2x(2x + 1) - x^3 \right) \]

3. Solve the following equation for \(x\):

\[ |2x + 5| = 4. \]
4. Find the equation of the line through (1,1) which is parallel to
   \[ y = -2x + 5. \]
   Write your answer in slope-intercept form.

5. Solve the following inequality for \( x \). Then graph your solution on the number line.
   \[ \frac{x - 3}{3} + 3 \leq \frac{x}{8}. \]
6. Ticket sales for a play total $2200. There are three times as many adult tickets sold as children’s tickets. The price of an adult ticket is $6 and the price of a child’s ticket is $4. Find the number of children’s tickets which were sold.