Name _____ Student No._____ G___/____ Date: _____Score: _____
Nickname: _____ Quiz No.: _____

Graphing Polynomial

A. Identify the properties of the given polynomial equation then sketch its graph.

1) $f(x) = -x^3 - 3x^2 + 4x + 12$

FTA:
Factored form:
Actual roots:
End Behavior:

Graph:

2) $f(x) = -x^4 + 5x^2 - 4$

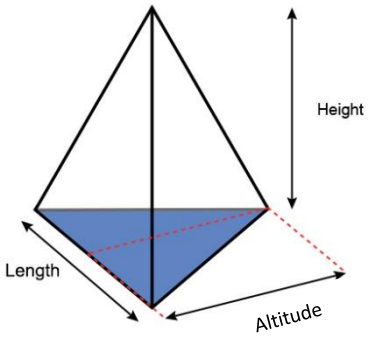
FTA:
Factored form:
Actual roots:
End Behavior:

Graph:

Solve the given problems and show your complete solution (3 points each).

1. When $x^4 + x^3 - Px^2 - 4x + R$ is divided by $x - 1$, the remainder is 12. When divided by $x - 2$, the remainder is 0. Find R and P.

2. Find the height of a triangular-based pyramid, including the length and altitude of the base if the volume of the pyramid is 32 cubic feet and the length of the base is 4 more than the height and the altitude is 2 less than twice the height.



3. A ball was thrown upward with initial velocity of $25m/s$ from the ground. It the acceleration of gravity is $10m/s^2$,
   a. what is the maximum height?
   b. How long will it take the ball to reach the ground?

4. A class trip with a fixed cost of $\$6000$ will be evenly divided to the number of attendees. If there had been 10 more attendees, the cost per attendee would be $\$30$ less. How many joined the trip?