

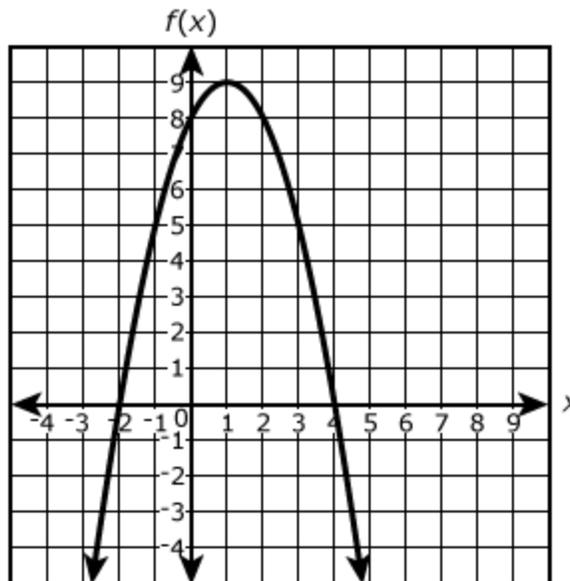
Non-Calculator Part (continued)

3. Determine all zeros for the function $f(x) = (x^2 + 2x - 8)(x - 6)$.

Drag and drop **all** zeros of the function into the box.

-48	-8	-6	-4	-2	0	2	4	6	8	48
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4. The figure shows a graph of the function $f(x)$ in the xy -coordinate plane.



A second function g is defined by $g(x) = -3x + 2$.

Select the correct phrase in each drop-down menu to complete the sentence.

$f(2)$

Choose ...
is less than
is greater than
is equal to

 $g(2)$ and $f(-2)$

Choose ...
is less than
is greater than
is equal to

 $g(-2)$.

Non-Calculator Part (continued)

5. Consider the equation $(x^2 + 3)^2 + 21 = 10x^2 + 30$.

Part A

Let $u = x^2 + 3$. Enter a number into each box such that the resulting equation is equivalent to $(x^2 + 3)^2 + 21 = 10x^2 + 30$ in terms of u .

Enter your answers in the boxes.

$$u^2 + \boxed{} u + \boxed{} = 0$$

Part B

What are the solutions of the equation $(x^2 + 3)^2 + 21 = 10x^2 + 30$?

Enter your answers in the space provided. You may not need to use all answer boxes.

$$x = \boxed{} \quad x = \boxed{} \quad x = \boxed{} \quad x = \boxed{}$$

6. Graph $f(x) = -(x - 2)^2 + 4$.

- Select a button to choose the type of graph.
- Drag the two points to the correct positions.

Linear
Absolute Value
Quadratic
Exponential
Logarithmic
Sin/Cos
Tan/Cotan

