

1. Use the given equation to find all the solutions to the polynomial.

$$f(x) = 2x^4 + 6x^3 + 12x^2 + 96x - 320$$

2. Solve. $\frac{1}{x-2} - \frac{5}{x^2-7x+10} = \frac{6}{x-2}$

3. Write an equation in standard form of least degree given the following roots: $x = -3$ and $x = 2i$, that passes through $(7, -265)$.

4. Find the value of each, if $f(x) = 5x^2 + 7x - 4$, $g(x) = x^3 - x + 6$, $h(x) = 3x$

a. $f(2)$

b. $f(-3)$

c. $f(g(-1))$

d. $g(h(x))$

5. Given the following equation, answer the following questions:

$$y = -(x - 2)^2 + 4$$

- a. In what form is this equation? _____ b. What is the vertex? _____
- c. What is the y-intercept? _____ d. What are the x-intercepts, if any? _____

6. Solve the following radical equations.

a. $7 - 2\sqrt{3x + 4} = -1$

b. $\sqrt{10x + 66} - x = 9$

7. Solve the following logarithmic equations.

a. $\log_7(x - 2) + \log_7(x + 3) = \log_7 14$

b. $\log_2(5x + 7) = 5$

c. $\ln(2x - 7) = 4$

d. $3e^{8x+1} = 45$

8. Draw the inverse

9. Find $d^{-1}(x)$ if $d(x) = (x + 1)^2 - 4$

