1.11A Equivalent Expressions and Binomial Theorem

AP Precalculus   Name: _____   **CA #2**

Convert to standard form or general form and answer the questions.

1.

$$f(x) = -3(2x - 1)^2$$

   a. Standard Form:

   b. Degree:

   c. y-intercept:

2.

$$h(t) = \frac{2(t - 5)}{(t + 2)(t + 1)}$$

   a. General Form:

   b. Horizontal Asymptote:

   c. y-intercept:

Convert to factored form and answer the questions.

3.

$$f(x) = x^3 - 8x^2 - 20x$$

   a. Factored Form:

   b. Zero(s):

   c. Where is $f(x) \geq 0$?

4.

$$g(x) = \frac{x^2 + 8x + 12}{x^2 - 4}$$

   a. Factored Form:

   b. Zero(s):

   c. Vertical Asymptote(s):

Use the binomial theorem to expand the following.

5. $(x + 3)^3$

6. $(2x - 1)^4$

Find the given term in the binomial expansion.

7. $(x + 3)^4$ Find the 2nd term.

8. $(2x - 3)^6$ Find the 3rd term.

Answers to 1.11A CA #2

1. a. $-12x^2 + 12x - 3$ b. 2 c. -3	2. a. $\frac{2t-10}{t^2+3t+2}$ b. $y = 0$ c. -5	3. a. $x(x - 10)(x + 2)$ b. $x = 0, -2, 10$ c. $[-2,0] \cup [10, \infty)$	4. a. $\frac{(x+2)(x+6)}{(x+2)(x-2)}$ b. $x = -6$ c. $x = 2$
5. $x^3 + 9x^2 + 27x + 27$		6. $16x^4 - 32x^3 + 24x^2 - 8x + 1$	
7. $12x^3$		8. $2160x^4$	