Name _____ Date _____ Class _____

CHAPTER 9

Quiz

Lessons 9-4 Through 9-6

Select the best answer.

1. Given $f(x) = 3x^2 - 3x + 5$ and $g(x) = -7x + 4$, find $(f - g)(x)$.

A $3x^2 - 10x + 9$

B $3x^2 + 4x + 9$

C $3x^2 + 4x + 1$

2. Given $f(x) = 2x^2 - x + 3$ and $g(x) = 2x - 4$, find $(gf)(x)$.

F $8x^2 - 34x + 39$

G $4x^3 - 6x^2 + 2x - 12$

H $4x^3 - 10x^2 + 10x - 12$

3. Given $f(x) = \frac{x}{3 - x}$ and $g(x) = \frac{3x}{1 + x}$, find $g(f(4))$.

A -4

B -1

C 4

4. Given $f(x) = \frac{1}{x}$ and $g(x) = \frac{1}{1 - x}$, find $g(f(x))$.

F $\frac{x}{x - 1}$

G $1 - \frac{1}{x}$

H $\frac{1}{x} - x$

5. Which is the inverse of $f(x) = \frac{(x-3)^2}{6} + 1$?

A $y = -1 \pm 6\sqrt{x - 3}$

B $y = 3 \pm 6\sqrt{x - 1}$

C $y = 3 \pm \sqrt{6x - 6}$

6. What are the domain and range of the inverse of $y = \sqrt{\frac{1}{x - 2}}$?

F D: $x \neq 0$; R: $y > 2$

G D: $\mathbb{R}$; R: $y > 2$

H D: $x > 2$; R: $\mathbb{R}$

Use constant differences or ratios to determine which parent function would best model the given data set.

7.

x	3	5	7	9	11
y	10,000	11,000	12,100	13,310	14,641

A exponential

B linear

C quadratic

8.

x	0	5	10	15	20
y	2	1	2	5	10

F exponential

G linear

H quadratic

9.

x	−7	1	9	17	25
y	−27	−22	−17	−12	−7

A exponential

B linear

C quadratic

10. What is the inverse of $f(x) = e^{x^2}$?

F $y = \ln\sqrt{x}$

G $y = \frac{\ln x}{2}$

H $y = \pm\sqrt{\ln x}$

CHAPTER 9

Section Quiz Lessons 9-4 Through 9-6

1. C
2. H
3. C
4. F
5. C
6. F
7. A
8. H
9. B
10. H