Algebra 2
Quiz 5.4-5.5

NAME_____

Write the letter for the best answer.

Solve the equation and check your solution(s).

1. $\sqrt{x+5} = 6$

A. 1
B. 11
C. 7
D. 31

2. $\sqrt[3]{x-7} = -3$

A. -2
B. -370
C. -20
D. -352

3. $3\sqrt[4]{x+3} - 2 = 7$

A. 0
B. 9
C. 78
D. ∅

4. $\sqrt[3]{3x-2} = \sqrt[3]{x+12}$

A. 7
B. 3
C. 5
D. 1

5. $x + 3 = \sqrt{7x+15}$

A. 3
B. 3,-2
C. 1
D. 1,-6

6. $\sqrt{-3x+19} = x - 3$

A. -2
B. 5,-2
C. 5
D. -5,2

7. $\sqrt{5x+16} = 2 + \sqrt{3x+4}$

A. 0
B. 0,4
C. 4
D. -4

8. $(x-2)^{\frac{1}{3}} = 5$

A. 123
B. 17
C. 127
D. 13

9. $(3x+28)^{\frac{1}{2}} = x$

A. -4
B. 7
C. -7
D. 4

In exercises 10-11, find *(f + g)(x)* to answer and then evaluate $x = 2$.

10. $f(x) = 3\sqrt{8x}$ and $g(x) = -4\sqrt{8x}$

A. $-\sqrt{8x}$; -4
B. $\sqrt{8x}$; 4
C. $-7\sqrt{8x}$; -28
D. $7\sqrt{8x}$; 28

11. $f(x) = 2x^2 - 4x + 3$ and $g(x) = 6x^2 + 5x - 1$

A. $4x^2 + x + 2$; 20
B. $4x^2 - x + 2$; 16
C. $8x^2 - x + 2$; 32
D. $8x^2 + x + 2$; 36

In exercises 12-13, find *(f - g)(x)* to answer and then evaluate $x = 2$.

12. $f(x) = -6\sqrt{8x}$ and $g(x) = 3\sqrt{8x}$

A. $9\sqrt{8x}$; 36
B. $3\sqrt{8x}$; 12
C. $-3\sqrt{8x}$; -12
D. $-9\sqrt{8x}$; -36

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

A. $5x^2 + 8x - 5$; 31
B. $-9x^2 + 2x + 3$; -29
C. $-9x^2 + 8x - 5$; -25
D. $-9x^2 + 2x - 5$; -37

In exercises 14-15, find *(fg)(x)* to answer.

14. $f(x) = 3x^2$ and $g(x) = x^{\frac{2}{5}}$

A. $3x^{\frac{12}{5}}$
B. $3x^{\frac{4}{5}}$
C. $3x^{\frac{8}{5}}$
D. $3x^{\frac{10}{5}}$

15. $f(x) = -2x^{\frac{1}{4}}$ and $g(x) = 6x^{\frac{1}{3}}$

A. $-12x^{\frac{1}{12}}$
B. $-12x^{\frac{7}{12}}$
C. $-12x^{\frac{5}{12}}$
D. $-12x^{\frac{11}{12}}$

In exercises 16-17, find $\left(\frac{f}{g}\right)(x)$ to answer.

16. $f(x) = 6x^4$ and $g(x) = 2x^{\frac{3}{5}}$

A. $3x^{\frac{23}{5}}$
B. $3x^{\frac{17}{5}}$
C. $3x^{\frac{19}{5}}$
D. $3x^{\frac{21}{5}}$

17. $f(x) = -24x^{\frac{4}{5}}$ and $g(x) = 4x^{\frac{1}{3}}$

A. $-6x^{\frac{11}{15}}$
B. $-6x^{\frac{12}{15}}$
C. $-6x^{\frac{17}{15}}$
D. $-6x^{\frac{7}{15}}$