

Name: _____

Algebra 2 Review

Unit 6 - 7 - 8

Show work whenever possible.

1) Simplify. $\sqrt{98x^3}$

2) Add. $\frac{x+3}{3x} + \frac{2x-5}{x^2}$

3) Given: $f(x) = 3x^2 - 5$
 $g(x) = 4x - 7$
Find: $(f - g)(x)$

4) $\frac{x^2 - 9}{5x + 15} \cdot \frac{10x}{x^2 - 7x + 12}$

5) $3\sqrt{2}(\sqrt{6} + 5\sqrt{2})$

6) Find the inverse.
 $f(x) = \frac{1}{3}x - 4$

7) Simplify. $(\sqrt{5} - 3)^2$

8) Given: $g(x) = x^2 - 5$
 $h(x) = 2x + 3$
Find: $(h \circ g)(x)$

9) What are the excluded values?
 $\frac{4x}{6x^2 - 15x}$

10) Add. $\sqrt{12} + \sqrt{75}$

11) Divide. $\frac{3x}{x^2 + x - 6} \div \frac{6x^2}{x^2 + 3x - 10}$

12) Given: $f(x) = 3x^2 - 5$
 $h(x) = 2x + 4$

Find: $h[f(-2)]$

13) Given: $f(x) = x^2 - 3$

Is it a function?
Domain? Range?

14) Simplify. $\sqrt[3]{56x^3y^5z^7}$

15) Subtract. $\frac{4x}{x-5} - \frac{x-3}{5-x}$

16) Simplify. $\frac{\sqrt{3}}{\sqrt{6}}$

17) What is the vertex of:
 $f(x) = -2|x - 3| + 4$

18) Simplify. $\frac{\frac{2}{-+3}}{\frac{x}{5} - 2}$
 $\frac{x}{x}$