

Algebra 2 Unit 2 Review 2

HW #32: SHOW ALL WORK on a separate piece of paper. No Calculator.

Rewrite in radical notation.

1. $7^{1/5}$
2. $(-11)^{3/4}$
3. $18^{5/2}$

Evaluate without a calculator:

4. $81^{3/4}$
5. $16^{5/4}$
6. $16^{-5/4}$
7. $\left(\frac{1}{216}\right)^{-1/3}$
8. $8^{-1/3}$

Simplify:

9. $\frac{25^{1/6}}{25^{2/3}}$
10. $\sqrt[3]{40} \cdot 4\sqrt[3]{5}$
11. $\sqrt[3]{81}$
12. $x^{1/3} \cdot x^{1/4}$
13. $\sqrt{64x^{12}}$
14. $\left(\frac{w^{25}}{x^{20}}\right)^{4/5}$
15. $4\sqrt[5]{5} + 8\sqrt[5]{5}$
16. $6\sqrt[7]{3} - 2\sqrt[7]{384}$
17. $\sqrt[4]{18x^8y^9z^3}$

18. Verify if the functions f and g below inverses of each other.

$$g(x) = \frac{1}{3}x - \frac{1}{2}, f(x) = \frac{3}{2}(2x + 1)$$

19. Verify if the functions f and g below inverses of each other.

$$f(x) = \frac{2}{3}x - \frac{1}{2}, g(x) = \frac{3}{2}x - \frac{3}{4}$$

20. Sketch the graph of the function $f(x) = \frac{2}{3}x - 2$ and its inverse on the same coordinate plane.

Find the inverse function.

21. $f(x) = x^2 + 5; x \geq 0$
22. $f(x) = \frac{1}{2}x + 2$

Let $f(x) = x^2 + 2x$ and $g(x) = x + 1$. Perform the indicated operation

23. $f(x) + g(x)$
24. $f(x) - g(x)$
25. $f(x) \cdot g(x)$
26. $\frac{f(x)}{g(x)}$
27. $f(g(x))$