

Name _____ Hour _____

Algebra 2 Review 7.4 -7.6 NO CALCULATOR SHOW ALL WORK

1. Write each expression in radical form.

$$(2x)^{\frac{1}{3}}$$

$$a^{\frac{4}{5}}$$

$$d^{2.5}$$

2. Write each expression in exponential form.

$$\sqrt{x^7}$$

$$\sqrt[3]{m}$$

$$\sqrt[4]{(5ab)^3}$$

In 3 – 9, simplify completely.

3. $-9^{\frac{3}{2}}$

3. _____

4. $(16)^{-0.75}$

4. _____

5. $\left(\frac{1}{27}\right)^{-\frac{2}{3}}$

5. _____

6. $8^{\frac{2}{3}}$

6. _____

7. 13^0

7. _____

8. $\left(\frac{1}{16}\right)^{\frac{1}{4}}$

8. _____

9. $32^{-0.4}$

9. _____

In 10 & 11, simplify using only positive exponents.

10. $\left(3a^{\frac{1}{2}}b^{\frac{1}{3}}\right)^2$

10. _____

11. $\left(a^{\frac{2}{3}}b^{-\frac{1}{2}}\right)^{-6}$

11. _____

In 12 – 14, simplify using only positive exponents.

12. $x^{\frac{3}{5}}x^{\frac{4}{5}}y^0$

12. _____

13. $\left(\frac{y^8}{y^{-4}}\right)^{-\frac{1}{4}}$

13. _____

14. $(9x^6y^{-2})^{\frac{1}{2}}$

14. _____

In 15 – 17, solve for x .

15. $2x^{\frac{3}{4}} = 16$

15. _____

16. $5(2x + 1)^{\frac{1}{3}} = 5$

16. _____

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

17. _____

In 18 – 20, solve for x . Check for extraneous solutions. Show your work.

18. $\sqrt{x+10} + 2 = 4$

18. _____

19. $(2x + 1)^{\frac{1}{2}} = -3$

19. _____

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

20. _____

Perform each function operation. Let $f(x) = 4x - 1$ and $g(x) = 2x^2 + 3$. **Show your work.**

21. $3f(x) - 5g(x)$

21. _____

22. $f(x) \cdot f(x)$

22. _____

23. $\frac{g(x)}{f(x)}$

State restrictions on domain

23. _____

24. $(f \circ g)(-1)$

24. _____

25. $f(g(x))$

25. _____