

Name: _____ Date: _____ Period: _____

SM2H Unit 2 - Rational Exponents and Radicals Review

Simplify the following expressions. Your answers should contain only positive exponents.

1. $4a^{-3} \cdot 2a^2r^4$

2. $\frac{18y^{-5}}{9y^2}$

3. $(3x^{-3})^{-3}$

4. $a^{\frac{1}{4}} \cdot a^{\frac{2}{3}}$

5. $\frac{p}{p^{\frac{1}{9}}}$

6. $\left(x^{\frac{2}{7}}\right)^{-\frac{3}{4}}$

Simplify each radical expression.

7. $\sqrt{324x^3y^4}$

8. $3\sqrt{56x^5y^2}$

9. $\sqrt[3]{40x^3y^8}$

10. $\sqrt{-64}$

Rewrite each expression in radical form, then simplify if possible.

11. $4^{\frac{5}{2}}$

12. $2(ab)^{\frac{2}{7}}$

Rewrite each expression using a rational exponent.

13. $\sqrt[4]{7r}$

14. $9\sqrt[3]{x^7}$

Rewrite using rational exponents, use the rules of exponents to simplify, then write your answer in radical form.

15. $\sqrt[8]{r^4}$

16. $\sqrt[5]{t^4} \cdot \sqrt[10]{t}$

Add or subtract and simplify.

17. $\sqrt{75} - 5\sqrt{3}$

18. $2\sqrt{45} - 9\sqrt{3} + 3\sqrt{20}$

19. $\sqrt{7} + \sqrt{28} - \sqrt{63}$

20. $(-9 + 5i) + (12 + 6i)$

21. $(5 - i) - (-6 + 12i)$

Multiply and simplify.

22. $4\sqrt{3}(5 + \sqrt{6})$

23. $(5 + \sqrt{3})(5 - \sqrt{3})$

24. $\sqrt{-30} \cdot \sqrt{-100}$

25. $7i(11 - 6i)$

26. $(-7i)(-8 + 9i)$

27. $(-6 - 2i)^2$

Simplify.

28. $\frac{5\sqrt{5}}{\sqrt{3}}$

29. $\frac{4+\sqrt{7}}{2-\sqrt{5}}$

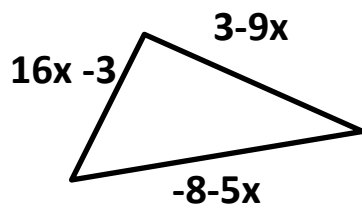
30. $\frac{6-5i}{6+3i}$

Simplify.

31. $(8w^2 + 8w) - (14w^2 + w)$

32. $(6x+6)(7x-3)$

33. Find the perimeter.



34. Find the area.

