

Name:

BECA / Dr. Huson / Geometry 04 Analytic Geometry

4.19 Challenge pre-quiz: Exponent rules**CCSS.HSN.RN.A.2****Exponent rules**

1. $4x^2 \times x^4y^3$

3. $(x^2y^2)^2 \times (x^3y)$

2. $a^3b \div a^2$

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

Fractional and negative exponents

Simplify. Express as fractions or radicals

5. $49^{\frac{1}{2}}$

7. $(ab)^{-1}$

6. $(xy)^{\frac{1}{2}}$

8. $(x^2y)^{-2}$

Radicals and exponents

Simplify, leaving no negative or fractional exponents.

9. $\sqrt{x^4y^2}$

12. $3x^{-2}y \times 2x^3y^{-1}$

10. $\frac{\sqrt[3]{8x}}{4}$

13. $\sqrt{a^4b}$

11. $\sqrt{\frac{x^2y^6}{z^4}}$

14. $x^{\frac{1}{2}} \times (\frac{y}{z^3})^2$

Simplify, leaving no negative or fractional exponents.

15. $\frac{3}{4}a^{-3} \times a^3b^{-3}$

24. $a^3b^{-3} \div a^{-4}b^{\frac{1}{2}}$

16. $\frac{2\sqrt{36x^2}}{\sqrt[3]{27x^3}}$

25. $\frac{6}{5}(x^{-2}y)^2 \times \frac{1}{3}(x^4y^{-1})$

17. $x^3y^{-2} \times (\frac{x}{y^2})^{-1}$

26. $25^{\frac{3}{2}}$

18. $(-2x^2y)^2$

27. $\sqrt[3]{\frac{16a^9b^{-3}}{z^{-4}}}$

19. $\frac{2}{3}(x^{-2}y)^3 \times \frac{6}{11}(x^2y^{-1})$

28. $\sqrt{20}$

20. $49^{\frac{1}{4}}$

29. $\sqrt{12x^4}$

21. $\sqrt[3]{\frac{a^3b^{-9}}{z^{-6}}}$

30. $4\sqrt{x} - 3\sqrt{x}$

22. $(\frac{1}{x^{-2}} - 4)^2 \times \frac{1}{5}x^{-4}y^3$

31. $\frac{1}{2}\sqrt{ab^2} + \frac{3}{2}b\sqrt{a}$

23. $\frac{x^2\sqrt{12x^6}}{xy\sqrt[5]{32x^{-5}}}$

32. $x^2\sqrt{xy^3} + 3y\sqrt{xy}$