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1.6 Practice

Set 1: Write each term without negative exponents.

1. $\frac{1}{a^{-3}}$

2. $\frac{1}{b^{-4}}$

3. c^{-5}

4. d^{-1}

5. $\frac{e^{-3}f^{-2}}{g^{-1}h^2}$

6. $\frac{m^{-4}n^{-5}}{p^{-1}q^3}$

7. $\frac{3r^2s^{-1}}{4t^{-2}u}$

8. $\frac{5v^{-1}w^5}{7x^{-3}y}$

9. $\frac{6a^{-1}b^2c^{-3}}{7d^{-1}ef^{-4}}$

10. $\frac{5g^3h^{-1}k^{-5}}{8mn^{-2}p^{-1}}$

11. $\frac{(-3g)^{-2}}{(4r)^{-1}}$

12. $\frac{(-3u)^{-3}}{(2v)^{-1}}$

Set 2: Simplify each product of terms.

13. $a^5 \cdot a^4$

14. $b^3 \cdot b^7$

15. $c^6 \cdot \frac{1}{c^3}$

16. $d^5 \cdot \frac{1}{d^2}$

17. $\frac{e^{-3}f^2}{e^2f^{-4}} \cdot \frac{e^5f^{-3}}{e^{-1}f}$

18. $\frac{g^5h^{-4}}{g^{-1}h^3} \cdot \frac{g^{-3}h^4}{gh^{-1}}$

19. $\frac{2m^4n^{-4}}{m^{-5}n^2} \cdot \frac{3m^{-6}n^3}{8m^3n^5}$

20. $\frac{4p^4q^3}{7p^{-7}q^7} \cdot \frac{14p^{-3}q^{-4}}{p^5q^{-2}}$

21. $\frac{12rst}{13r^2s^{-3}} \cdot \frac{2r^{-4}s}{27r^{-5}t^{-3}}$

22. $\frac{5u^{-6}v^{-1}}{7v^2w^{-4}} \cdot \frac{14uvw}{15u^3v^{-4}}$

23. $\frac{7xy^{-1}z^3}{16yz^{-2}} \cdot \frac{12x^{-2}yz^{-3}}{14x^{-4}y^{-4}z}$

24. $\frac{4a^{-3}b^3c}{6a^2b^{-1}c^2} \cdot \frac{9a^5b^{-2}c^{-3}}{10ab^5c^{-5}}$

15. _____

Set 3: Simplify each term raised to a power.

16. _____

25. $(a^3)^5$

26. $(b^4)^2$

27. $(-3c^3)^4$

17. _____

28. $(-2d^5)^3$

29. $(3e^4f^{-3})^2$

30. $(2g^5h^{-2})^3$

18. _____

29. _____

31. $\left[\frac{-2m^{-1}n^{-2}p^3}{3m^2n^{-1}p^{-4}}\right]^4$

32. $\left[\frac{-3q^4r^{-1}s^2}{2q^{-1}rs^{-3}}\right]^6$

33. $\left[\frac{-2tu^{-1}v^3}{3t^2uv^{-2}}\right]^5$

30. _____

31. _____

34. $\left[\frac{2w^4x^2y^{-2}}{-3wx^{-3}y^4}\right]^3$

35. $\left[\frac{3a^{-3}b^4c^{-1}}{2a^2b^{-1}c^3}\right]^{-2}$

36. $\left[\frac{2d^3e^2f^{-1}}{3d^{-1}e^3f^2}\right]^{-3}$

32. _____

33. _____

Extra: Simplify each problem.

34. _____

37. $[2a^{-2}(a^3b^{-3})^{-1}]^2$

38. $[4d^2(c^3d^{-1})^{-2}]^3$

39. $[3e^{-1}(e^2f^{-3})^2]^{-3}$

35. _____

40. $[2g^{-2}(g^3h^{-1})^2]^{-3}$

41. $\frac{(3mn^2p^{-1})^{-3}}{(-2m^2np^{-2})^2}$

42. $\frac{(2r^{-1}st^2)^{-2}}{(-3r^2s^{-1}t)^3}$

36. _____

37. _____

43. $\frac{(-2u^3v^2w^{-2})^4}{(-3u^{-2}v^3w^{-1})^{-2}}$

44. $\frac{(-xy^2z^3)^{-2}}{(-x^2yz^{-1})^{-3}}$

45. $\frac{(-a^{-2}b^{-3}c)^{-3}}{(-2ab^{-1}c^3)^{-1}}$

38. _____

39. _____

46. $\frac{(-2d^{-2}e^{-1}f^3)^5}{(-3d^{-3}ef^2)^{-3}}$

47. $\left[\frac{-3g^2h^{-3}k}{4g^{-1}h^{-4}k^2}\right]^4$

48. $\left[\frac{-2m^3n^2p^{-3}}{5m^{-1}n^4p^{-5}}\right]^3$

40. _____