

Pre Calculus 11  
Basic With Exponents

Name \_\_\_\_\_

Date \_\_\_\_\_

Simplify.

1.  $(-5)^3$

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

3.  $(-\frac{10}{11})^2$

4.  $-(-\frac{5}{12})^2$

5.  $w^{10}w^5$

6.  $w^4 \cdot w^2 \cdot w^2 \cdot w^3$

7.  $a^2 \cdot a^3 \cdot b \cdot b^2$

8.  $(-a)(-a^3)(a^4)$

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

10.  $\frac{6}{6^3}$

11.  $\frac{d^{12}}{-d^3}$

12.  $\frac{-y^{15}}{y^{11}}$

13.  $x^6 \div (-x^7)$

14.  $a^2b^7c \div a^4b^7c^8$

15.  $(x^2)^4$

16.  $(y^3)(y^2)^3$

17.  $(-a)^3(-a^2)^3$

18.  $(-c)^2(-c^3)^2$

19.  $[-(-p)^2]^6$

20.  $(-w^6xy^4)^5$

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

22.  $(\frac{4}{5}wx^5)^2$

23.  $\left(-\frac{1}{km}\right)^5$

24.  $\left(\frac{w^2}{xy^3}\right)^6$

25.  $\left(-\frac{mr^4}{p^2}\right)^5$

26.  $\frac{(-km^2)^4}{(km)^3(km^5)}$

27.  $(x^4y)^a(xy^2)^a$

28.  $(m^{2k+1})^2(m^{k+2})^3$

29.  $\frac{x^{3n}}{x^n}$

30.  $\frac{x^{4n-2}}{x^{2n-5}}$

31.  $\frac{(a^{x+1})^3}{(a^x)^2(a^{x-2})}$

32.  $\frac{2^{3n+1}}{(2^{n-1})^3}$

33.  $\left(\frac{y^{2n}}{y^{n+2}}\right)^3$

34.  $\left(\frac{x^{2a-1}}{x^{a-3}}\right)^2$

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

36.  $\left(\frac{(a^n)^2(a^{n+1})}{(a^2)}\right)^3$

37.  $4^{-2}$

38.  $2^{-4}$

39.  $12^0$

40.  $\left(\frac{2}{3}\right)^0$

41.  $\left(-\frac{4}{5}\right)^0$

42.  $(-7)^{-2}$

43.  $(4 + 7)^{-2}$

44.  $-3^{-5}$

45.  $3 + 3^{-1}$

46.  $(6^{-3})(6^3)$

47.  $\frac{2^{-2}}{-8}$

48.  $\left[\left(\frac{1}{7}\right)^{-1}\right]^{-2}$

49.  $\left[\frac{(-3)^3}{3^2}\right]^{-2}$

50.  $\left[\frac{2^{-2}}{2^3}\right]^{-1}$

51.  $\left[\frac{2^4}{(-2)^3}\right]^{-3}$

52.  $\left(\frac{2^{-2} + 4^{-1}}{5^{-1}}\right)^{-2}$

53.  $(3u^{-3})^{-3}$

54.  $(m^2r)^{-3}$

55.  $(10s^{-4}t^3)^{-1}$

56.  $(5t^{-2})^2(10t)^{-1}$

57.  $(3z^{-2})^{-3}(9z^{-3})$

**Answer List**

- |                                    |                         |                                |
|------------------------------------|-------------------------|--------------------------------|
| 1. $-125$                          | 2. $\frac{1}{144}$      | 3. $\frac{100}{121}$           |
| 4. $-\frac{25}{144}$               | 5. $w^{15}$             | 6. $w^{11}$                    |
| 7. $a^5b^3$                        | 8. $a^8$                | 9. $-c^{10}$                   |
| 10. $\frac{1}{36}$                 | 11. $-d^9$              | 12. $-y^4$                     |
| 13. $-\frac{1}{x}$                 | 14. $\frac{1}{a^2c^7}$  | 15. $x^8$                      |
| 16. $y^9$                          | 17. $a^9$               | 18. $c^8$                      |
| 19. $p^{12}$                       | 20. $-w^{30}x^5y^{20}$  | 21. $\frac{4}{9}x^6$           |
| 22. $\frac{16}{25}w^2x^{10}$       | 23. $-\frac{1}{k^5m^5}$ | 24. $\frac{w^{12}}{x^6y^{18}}$ |
| 25. $-\frac{m^{5r}r^{20}}{p^{10}}$ | 26. $1$                 | 27. $x^{5a}y^{3a}$             |
| 28. $m^{7k+8}$                     | 29. $x^{2n}$            | 30. $x^{2n+3}$                 |
| 31. $a^5$                          | 32. $16$                | 33. $y^{3n-6}$                 |
| 34. $x^{2a+4}$                     | 35. $a^{4x+12}$         | 36. $a^{9n-3}$                 |
| 37. $\frac{1}{16}$                 | 38. $\frac{1}{16}$      | 39. $1$                        |
| 40. $1$                            | 41. $1$                 | 42. $\frac{1}{49}$             |
| 43. $\frac{1}{121}$                | 44. $-\frac{1}{243}$    | 45. $\frac{10}{3}$             |
| 46. $1$                            | 47. $-\frac{1}{32}$     | 48. $\frac{1}{49}$             |
| 49. $\frac{1}{9}$                  | 50. $32$                | 51. $-\frac{1}{8}$             |
| 52. $\frac{4}{25}$                 | 53. $\frac{u^9}{27}$    | 54. $\frac{1}{m^6r^3}$         |
| 55. $\frac{s^4}{10t^3}$            | 56. $\frac{5}{2t^5}$    | 57. $\frac{z^3}{3}$            |

**Catalog List**

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|----------------|----------------|----------------|
| 1. ALG BA 30   | 2. ALG BA 65   | 3. ALG BA 66   |
| 4. ALG BA 74   | 5. ALG BB 21   | 6. ALG BB 40   |
| 7. ALG BB 50   | 8. ALG BB 75   | 9. ALG BB 76   |
| 10. ALG BD 15  | 11. ALG BD 27  | 12. ALG BD 28  |
| 13. ALG BD 86  | 14. ALG BD 90  | 15. ALG BC 13  |
| 16. ALG BC 25  | 17. ALG BC 41  | 18. ALG BC 42  |
| 19. ALG BC 47  | 20. ALG BC 74  | 21. ALG BC 77  |
| 22. ALG BC 82  | 23. ALG BE 9   | 24. ALG BE 13  |
| 25. ALG BE 14  | 26. ALG BE 62  | 27. ALG BF 25  |
| 28. ALG BF 29  | 29. ALG BF 37  | 30. ALG BF 42  |
| 31. ALG BF 54  | 32. ALG BF 55  | 33. ALG BF 57  |
| 34. ALG BF 58  | 35. ALG BF 59  | 36. ALG BF 60  |
| 37. ALG BG 1   | 38. ALG BG 3   | 39. ALG BG 5   |
| 40. ALG BG 8   | 41. ALG BG 9   | 42. ALG BG 21  |
| 43. ALG BG 31  | 44. ALG BG 28  | 45. ALG BG 33  |
| 46. ALG BG 45  | 47. ALG BG 49  | 48. ALG BG 67  |
| 49. ALG BG 69  | 50. ALG BG 70  | 51. ALG BG 71  |
| 52. ALG BG 80  | 53. ALG BG 109 | 54. ALG BG 115 |
| 55. ALG BG 119 | 56. ALG BG 122 | 57. ALG BG 123 |