

Solving Expressions with Negative Exponents

A negative exponent means the number with the exponent moves to the other side of the fraction.

Example A: $2^{-3} = \frac{1}{2^3} = \frac{1}{8}$ Example B: $\frac{1}{7^{-2}} = 7^2 = 49$

A. Rewrite the expression and solve. Your answer should not include negative exponents.

1. $3^{-2} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

3. $6^{-1} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

2. $4^{-2} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

4. $9^{-2} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

B. Rewrite the expression and solve.

5. $\frac{1}{2^{-1}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

7. $\frac{1}{6^{-2}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

6. $\frac{1}{5^{-2}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

8. $\frac{1}{8^{-2}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

C. Rewrite the expression and solve (mixed practice).

9. $12^{-1} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

13. $\frac{1}{10^{-2}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

10. $\frac{1}{7^{-2}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

14. $8^{-2} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

11. $\frac{1}{9^{-1}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

15. $3^{-3} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

12. $4^{-2} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

16. $\frac{1}{3^{-2}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

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Example A: $2^{-3} = \frac{1}{2^3} = \frac{1}{8}$ Example B: $\frac{1}{7^{-2}} = 7^2 = 49$

A. Rewrite the expression and solve. Your answer should not include negative exponents.

1. $3^{-2} = \frac{1}{2^3} = \frac{1}{8}$

3. $6^{-1} = \frac{1}{6^1} = \frac{1}{6}$

2. $4^{-2} = \frac{1}{4^2} = \frac{1}{16}$

4. $9^{-2} = \frac{1}{9^2} = \frac{1}{81}$

B. Rewrite the expression and solve.

5. $\frac{1}{2^{-1}} = 2^1 = 2$

7. $\frac{1}{6^{-2}} = 6^2 = 36$

6. $\frac{1}{5^{-2}} = 5^2 = 25$

8. $\frac{1}{8^{-2}} = 8^2 = 64$

C. Rewrite the expression and solve (mixed practice).

9. $12^{-1} = \frac{1}{12^1} = \frac{1}{12}$

13. $\frac{1}{10^{-2}} = 10^2 = 100$

10. $\frac{1}{7^{-2}} = 7^2 = 49$

14. $8^{-2} = \frac{1}{8^2} = \frac{1}{64}$

11. $\frac{1}{9^{-1}} = 9 = 9$

15. $3^{-3} = \frac{1}{3^3} = \frac{1}{27}$

12. $4^{-2} = \frac{1}{4^2} = \frac{1}{16}$

16. $\frac{1}{3^{-2}} = 3^2 = 9$