

ACT COMPASS Preparation Worksheet

Pre-algebra: Scientific Notation

Write each number in scientific notation.

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|---|--|---|---|
| 1. 0.000006 =
6.0×10^{-6} | 5. 6.7 =
6.7×10^0 | 9. 48900 =
4.89×10^4 | 13. 0.0042 =
4.2×10^{-3} |
| 2. 5400000 =
5.4×10^6 | 6. 0.0000002 =
2.0×10^{-7} | 10. 0.0000009 =
9×10^{-7} | 14. $0.15 \times 10^{-2} =$
1.5×10^{-3} |
| 3. 60 =
6×10^1 | 7. 2000000 =
2×10^6 | 11. $0.63 \times 10^1 =$
6.3×10^0 | 15. 4.8 =
4.8×10^0 |
| 4. 0.009 =
9.0×10^{-3} | 8. $71 \times 10^3 =$
7.1×10^4 | 12. $0.000216 = 2.16$
$\times 10^{-4}$ | |

Write each number in standard notation.

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|---|---|---|--|
| 16. $2 \times 10^{-1} =$
0.2 | 20. $7.75 \times 10^{-1} =$
0.775 | 24. $0.9 \times 10^{-3} =$
0.0009 | 27. $4 \times 10^0 =$
4 |
| 17. $2 \times 10^5 =$
200,000 | 21. $8.3 \times 10^7 =$
83,000,000 | 25. $38 \times 10^2 =$
3,800 | 28. $8.4 \times 10^5 =$
840,000 |
| 18. $804 \times 10^2 =$
80,400 | 22. $9.5 \times 10^7 =$
95,000,000 | 26. $7.5 \times 10^{-5} =$
0.000075 | 29. $4 \times 10^{-5} =$
0.00004 |
| 19. $2.66 \times 10^4 =$
26,600 | 23. $1.71 \times 10^7 =$
17,100,000 | | |

Simplify. Write each answer in scientific notation.

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| 30. $(2 \times 10^{-4})(8.1 \times 10^{-1}) = 1.62 \times 10^{-4}$ | 36. $\frac{4 \times 10^4}{3.63 \times 10^{-4}} = 1.102 \times 10^8$ |
| 31. $(3.48 \times 10^3)(9.8 \times 10^4) = 3.4104 \times 10^8$ | 37. $\frac{9 \times 10^{-5}}{9.24 \times 10^{-6}} = 9.74 \times 10^0$ |
| 32. $(6 \times 10^3)(9.91 \times 10^0) = 5.946 \times 10^4$ | 38. $\frac{8.42 \times 10^3}{5 \times 10^2} = 1.684 \times 10^1$ |
| 33. $(8.8 \times 10^2)(2.25 \times 10^{-2}) = 1.98 \times 10^1$ | 39. $\frac{8.9 \times 10^6}{8.4 \times 10^6} = 1.06 \times 10^0$ |
| 34. $(4 \times 10^{-5})^{-6} = 2.4414 \times 10^{26}$ | 40. $\frac{1.18 \times 10^{-4}}{3 \times 10^0} = 3.93 \times 10^{-5}$ |
| 35. $(8.9 \times 10^5)^4 = 6.274 \times 10^{23}$ | |