

Number Correct: _____

Improvement: _____

Applying Properties of Exponents to Generate Equivalent Expressions—Round 2

Directions: Simplify each expression using the laws of exponents. Use the least number of bases possible and only positive exponents. All letters denote numbers.

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| 1. | $5^2 \cdot 5^3$ | |
| 2. | $5^2 \cdot 5^4$ | |
| 3. | $5^2 \cdot 5^5$ | |
| 4. | $2^7 \cdot 2^1$ | |
| 5. | $2^8 \cdot 2^1$ | |
| 6. | $2^9 \cdot 2^1$ | |
| 7. | $3^6 \cdot 3^2$ | |
| 8. | $3^6 \cdot 3^3$ | |
| 9. | $3^6 \cdot 3^4$ | |
| 10. | $7^{15} \cdot 7$ | |
| 11. | $7^{16} \cdot 7$ | |
| 12. | $11^{12} \cdot 11^2$ | |
| 13. | $11^{12} \cdot 11^4$ | |
| 14. | $11^{12} \cdot 11^6$ | |
| 15. | $23^5 \cdot 23^2$ | |
| 16. | $23^6 \cdot 23^3$ | |
| 17. | $23^7 \cdot 23^4$ | |
| 18. | $13^7 \cdot 13^3$ | |
| 19. | $15^7 \cdot 15^3$ | |
| 20. | $17^7 \cdot 17^3$ | |
| 21. | $x^7 \cdot x^3$ | |
| 22. | $y^7 \cdot y^3$ | |

| | | |
|-----|----------------------------|--|
| 23. | $7^3 \cdot 7^2$ | |
| 24. | $7^2 \cdot 7^3$ | |
| 25. | $(-4)^3 \cdot (-4)^{11}$ | |
| 26. | $(-4)^{11} \cdot (-4)^3$ | |
| 27. | $(0.2)^3 \cdot (0.2)^{11}$ | |
| 28. | $(0.2)^{11} \cdot (0.2)^3$ | |
| 29. | $(-2)^9 \cdot (-2)^5$ | |
| 30. | $(-2.7)^5 \cdot (-2.7)^9$ | |
| 31. | $3.1^6 \cdot 3.1^6$ | |
| 32. | $57^6 \cdot 57^6$ | |
| 33. | $z^6 \cdot z^6$ | |
| 34. | $4 \cdot 2^9$ | |
| 35. | $4^2 \cdot 2^9$ | |
| 36. | $16 \cdot 2^9$ | |
| 37. | $16 \cdot 4^3$ | |
| 38. | $9 \cdot 3^5$ | |
| 39. | $3^5 \cdot 9$ | |
| 40. | $3^5 \cdot 27$ | |
| 41. | $5^7 \cdot 25$ | |
| 42. | $5^7 \cdot 125$ | |
| 43. | $2^{11} \cdot 4$ | |
| 44. | $2^{11} \cdot 16$ | |