Ask students to review the Exponents and Powers Assessment Answer sheet. They will work in pairs to create a new problem for each of the 14 problems below in an assessment sheet format (without answers).

They also must create an answer key with the solution and the steps they took in the solution process.

Once student pairs create their 14 problems, the pairs will exchange test questions with another pair. The pairs will work together to solve the new assessment questions. The teacher can collect and score each pair’s assessment answers. This is also a good chance to review the problems with the whole class and solve them together during a separate class session.

**Product of Powers**

Write the expression as a single power of the base.

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| --- | --- | --- |
| **Example** | **New Problem** | **Answer and steps to solve** |
| 1. 43 • 46 = 4**9** |  |  |
| 2. 89 • 85 = 814 |  |  |
| 3. b2 • b3 = b5 |  |  |
| 4. x6 • x5 = x11 |  |  |

**Power of a Power**

Write the expression as a single power of the base.

|  |  |  |
| --- | --- | --- |
| **Example** | **New Problem** | **Answer and steps to solve** |
| 5. (43)2 = 46 |  |  |
| 6. (b9)10 = b90 |  |  |
| 7. (53)3 = 59 |  |  |
| 8. (x7)5 = x35 |  |  |
| 9. (y9)13 = y117 |  |  |

**Power of a Product**

Simplify the expression.

|  |  |  |
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| **Example** | **New Problem** | **Answer and steps to solve** |
| 10. (3x)3 = 27x3 |  |  |
| 11. (2mn)5 = 32m5n5 |  |  |
| 12. (5 • 8)4 = 2,560,000 |  |  |
| 13. (20xy)2 = 400x2y2 |  |  |
| 14. (-3m)5 = -729m5 |  |  |