

Name: _____

Exponent Rules

Simplify each of the following expressions.

1. $\frac{6^6}{7^6}$

☐ A. $6^6 - 7^{-6}$

☐ B. $(6 - 7)^6$

☐ C. $\frac{6}{7}$

☐ D. $\left(\frac{6}{7}\right)^6$

2. $(32)^5$

☐ A. 3^{10}

☐ B. 3^{-3}

☐ C. 3^7

☐ D. 3^5

3. $\left(\frac{1}{2}\right)^4 \cdot \left(\frac{3}{7}\right)^4$

☐ A. $\left(\frac{3}{14}\right)^{16}$

☐ B. $\left(\frac{13}{14}\right)^4$

☐ C. $\left(\frac{13}{14}\right)^{16}$

☐ D. $\left(\frac{3}{14}\right)^4$

4. $(42)^0$

☐ A. 16

☐ B. 0

☐ C. 8

☐ D. 1

5. $\frac{11^7}{11^4}$

☐ A. $11^{\frac{7}{4}}$

☐ B. $11^7 - 11^4$

☐ C. $\frac{1}{11^3}$

☐ D. 11^3

6. $8^2 \cdot 8^5$

☐ A. 8^{10}

☐ B. 8^7

☐ C. $8(10)$

☐ D. $8(7)$

7. 10^{-3}

☐ A. $10(-3)$

☐ B. -10^3

☐ C. $\frac{1}{10^3}$

☐ D. $-\frac{1}{10^3}$

8. Evaluate the following expression when $x = 5$ and $y = \frac{2}{5}$

$9xy^3$

☐ A. $\frac{72}{25}$

☐ B. $\frac{72}{125}$

☐ C. $\frac{17}{25}$

☐ D. 72

9. Evaluate the following expression when $n = 5$.

$4|2 - 5n| + |2|$

☐ A. 94

☐ B. -94

☐ C. 90

☐ D. -90

10. Evaluate the following expression when $x = -3$ and $y = 1$.

$$\frac{x^2 - x}{3y}$$

- ☐ A. -2
- ☐ B. 2
- ☐ C. 28
- ☐ D. 4

11. Evaluate the following expression when $x = 3$.

$$-3x^2 + 5x + 14$$

- ☐ A. 2
- ☐ B. 110
- ☐ C. 56
- ☐ D. 11

12. Evaluate the following expression when $n = -8$.

$$-10|n + 5|$$

- ☐ A. 30
- ☐ B. -7
- ☐ C. -30
- ☐ D. -130