

The Rules of Higher Exponents

Exponent Rules Matching:

$$(ab)^n =$$

$$a^{mn}$$

$$\left(\frac{1}{b}\right)^n =$$

$$a^n \div b^n$$

$$(a \div b)^n =$$

$$a^{m+n}$$

$$a^m \cdot a^n =$$

$$\left(\frac{1}{b^n}\right)$$

$$a^m \div a^n =$$

$$a^{m-n}$$

$$(a^m)^n =$$

$$a^n b^n$$

Write the rule AND the answer:

$$(6 \cdot 9)^7 =$$

$$8^7 \cdot 8^8 =$$

$$\left(\frac{1}{5}\right)^4 =$$

$$(11^6)^9 =$$

$$(37 \div 5)^2 =$$

$$(8 \cdot 3)^4 =$$

$$17^4 \cdot 17^{17} =$$

$$16^{13} \div 16^6 =$$

$$7^{25} \div 7^{14} =$$

$$\left(\frac{1}{7}\right)^8 =$$

$$(19^7)^6 =$$

$$(41 \div 3)^7 =$$

$$\left(\frac{1}{8}\right)^9 =$$

$$13^{14} \div 13^8 =$$

$$(8 \cdot 6)^5 =$$

$$(4^3)^6 =$$

$$(16 \div 13)^2 =$$

$$7^4 \cdot 7^8 =$$

The Rules of Higher Exponents

Exponent Rules Matching:

$$a^m \cdot a^n =$$

$$a^n \div b^n$$

$$a^m \div a^n =$$

$$a^n b^n$$

$$(ab)^n =$$

$$a^{m+n}$$

$$\left(\frac{1}{b}\right)^n =$$

$$\left(\frac{1}{b^n}\right)$$

$$(a \div b)^n =$$

$$a^{m-n}$$

$$(a^m)^n =$$

$$a^{mn}$$

$$6^{14} \cdot 6^7 =$$

$$(5^7)^7 =$$

$$(9 \cdot 8)^3 =$$

$$(9 \cdot 11)^{12} =$$

$$(15 \div 4)^3 =$$

$$83^6 \cdot 83^7 =$$

$$\left(\frac{1}{3}\right)^6 =$$

$$13^{17} \div 13^9 =$$

$$12^{16} \div 12^9 =$$

$$\left(\frac{1}{4}\right)^{11} =$$

$$(11^4)^8 =$$

$$(26 \div 5)^7 =$$

$$\left(\frac{1}{9}\right)^3 =$$

$$21^9 \div 21^6 =$$

$$(17 \cdot 11)^2 =$$

$$(19^8)^9 =$$

$$(31 \div 7)^5 =$$

$$4^6 \cdot 4^4 =$$

Answers for page 1.

$$(6 \cdot 9)^7 = a^n b^n = 6^7 \cdot 9^7$$

$$\left(\frac{1}{5}\right)^4 = \left(\frac{1}{b^n}\right) = \left(\frac{1}{5^4}\right)$$

$$(37 \div 5)^2 = a^n \div b^n = 37^2 \div 5^2$$

$$17^4 \cdot 17^{17} = a^{m+n} = 17^{21}$$

$$7^{25} \div 7^{14} = a^{m-n} = 7^{11}$$

$$(19^7)^6 = a^{mn} = 19^{42}$$

$$\left(\frac{1}{8}\right)^9 = \left(\frac{1}{b^n}\right) = \left(\frac{1}{8^9}\right)$$

$$(8 \cdot 6)^5 = a^n b^n = 8^5 6^5$$

$$(16 \div 13)^2 = a^n \div b^n = 16^2 \div 13^2$$

$$8^7 \cdot 8^8 = a^{m+n} = 8^{15}$$

$$(11^6)^9 = a^{mn} = 11^{54}$$

$$(8 \cdot 3)^4 = a^n b^n = 8^4 \cdot 3^4$$

$$16^{13} \div 16^6 = a^{m-n} = 16^7$$

$$\left(\frac{1}{7}\right)^8 = \left(\frac{1}{b^n}\right) = \left(\frac{1}{7^8}\right)$$

$$(41 \div 3)^7 = a^n \div b^n = 41^7 \div 3^7$$

$$13^{14} \div 13^8 = a^{m-n} = 13^6$$

$$(4^3)^6 = a^{mn} = 4^{18}$$

$$7^4 \cdot 7^8 = a^{m+n} = 7^{12}$$

Answers for page 2.

$$6^{14} \cdot 6^7 = a^{m+n} = 6^{21}$$

$$(9 \cdot 8)^3 = a^n b^n = 9^3 8^3$$

$$(15 \div 4)^3 = a^n \div b^n = 15^3 \div 4^3$$

$$\left(\frac{1}{3}\right)^6 = \left(\frac{1}{b^n}\right) = \left(\frac{1}{3^6}\right)$$

$$12^{16} \div 12^9 = a^{m-n} = 12^7$$

$$(11^4)^8 = 11^{32}$$

$$\left(\frac{1}{9}\right)^3 = \left(\frac{1}{b^n}\right) = \left(\frac{1}{9^3}\right)$$

$$(17 \cdot 11)^2 = a^n b^n = 17^2 11^2$$

$$(31 \div 7)^5 = a^n \div b^n = 31^5 \div 7^5$$

$$(5^7)^7 = a^{mn} = 5^{49}$$

$$(9 \cdot 11)^{12} = a^n b^n = 9^{12} 11^{12}$$

$$83^6 \cdot 83^7 = a^{m+n} = 83^{13}$$

$$13^{17} \div 13^9 = a^{m-n} = 13^8$$

$$\left(\frac{1}{4}\right)^{11} = \left(\frac{1}{b^n}\right) = \left(\frac{1}{4^{11}}\right)$$

$$(26 \div 5)^7 = a^n \div b^n = 26^7 \div 5^7$$

$$21^9 \div 21^6 = a^{m-n} = 21^3$$

$$(19^8)^9 = a^{mn} = 19^{72}$$

$$4^6 \cdot 4^4 = a^{m+n} = 4^{10}$$

Exponent Rules Matching Answers:

$$(ab)^n = a^n b^n$$

$$\left(\frac{1}{b}\right)^n = \frac{1}{b^n}$$

$$(a \div b)^n = a^n \div b^n$$

$$a^m \cdot a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

$$(a^m)^n = a^{mn}$$