**Index Laws Homework**

|  |  |  |
| --- | --- | --- |
| **Literacy****Index (Power)** | **Research**What is the value of $0^{2}?$What is the value of $0^{-2}?$What is the value of $0^{0}?$ | **Memory**Learn these rules:$$x^{a}×x^{b}=x^{a+b}$$$$x^{a}÷x^{b}=x^{a-b}$$$$\left(x^{a}\right)^{b}=x^{ab}$$$$x^{0}=1$$ |
| **Skills**

|  |  |
| --- | --- |
| Use index laws to simplify: |  |
| 1. $p^{2}×p^{5}$
 | 1. $p^{12}÷p^{4}$
 |
| 1. $\left(p^{3}\right)^{7}$
 | 1. $p^{0}×q^{3}$
 |
| 1. $3p^{4}×5p^{2}$
 | 1. $6pq^{3}×2p^{9}q^{2}$
 |
| 1. $\frac{p^{7}}{p^{2}}$
 | 1. $\frac{8p^{11}}{2p^{9}}$
 |
| 1. $\left(2p^{4}\right)^{3}$
 | 1. $\frac{8q^{2} × 3q^{7}}{6q^{8}}$
 |
|  |  |

 | **Stretch**Find the value of:1. $2^{20}÷4^{10}$
2. $\left(2^{6}\right)^{2}÷4^{5}$
3. $3^{7}÷9^{3}$
4. $27^{5}÷3^{12}$
 |