1. ***Exponents***

**Bilangan Berpangkat**

1. ***Understanding Exponents***

**Pengertian Bilangan Berpangkat**

*Exponents formulated as follows:*

Bilangan berpangkat dirumuskan sebagai berikut :

= a x a x a x a x a x ………………….. x a

n

*description:*

keterangan :

= *Called Exponents with the rank of a positive spherical*

= disebut bilangan berpangkat dengan pangkat bulat positif

=  *Read a Exponents n*

= dibaca a pangkat n

= *Is called the base or base*

= disebut bilangan pokok atau basis

= *Is called the Exponents*

= disebut pangkat atau eksponen

1. ***Basic Rules of Operation Exponents***

**Aturan Dasar Pengoperasian Bilangan Berpangkat**

1. ***Multiplication of the Exponents numbers are essentially the same numbers***

**Perkalian bilangan berpangkat yang bilangan pokoknya sama**

*Example 35:*

*Contoh 35 :*

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |

1. ***Distribution of the Exponents numbers are essentially the same numbers***

**Pembagian bilangan berpangkat yang bilangan pokoknya sama**

*Example 36 :*

Contoh 36 :

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |

1. ***Reappointment Exponents numbers***

**Pemangkatan bilangan berpangkat**

*Example 37 :*

Contoh 37 :

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |
|  | = |  |

1. ***Multiplication reappointment of Two Numbers***

**Pemangkatan dari Perkalian Dua Bilangan**

*Example 38:*

Contoh 38 :

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |
|  | = |  |

1. ***Promotion from Division Two Numbers***

**Pemangkatan dari Pembagian Dua Bilangan**

*Example 39 :*

Contoh 39 :

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |

***Exercise 3 :***

**Latihan 3 :**

*Simplify:*

Sederhanakanlah :

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1. ***Exponents Negative Numbers***

**Bilangan Berpangkat Negatif**

*Example 40 :*

Contoh 40 :

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |
|  | = |  |

***Exercise 4 :***

**Latihan 4 :**

*Express in the form of negative spherical Exponents:*

Nyatakan dalam bentuk pangkat bulat negatif :

1. 2. 3. 4. 5.

*Express in the form of positive spherical Exponents:*

Nyatakan dalam bentuk pangkat bulat positif :

1. 2. 3. 4. 5.

*Simplify and express in the form of positive spherical Exponents:*

Sederhanakan dan nyatakan dalam bentuk pangkat bulat positif :

1. 2. 3. 4. 5.
2. ***Exponents zero***

**Bilangan pangkat nol**

*Example 41:*

Contoh 41:

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |

***Exercise 5:***

**Latihan 5 :**

1. 2. 3.
2. ***Numbers Fractional Exponents***

**Bilangan berpangkat Bilangan Pecahan**

*Example 42:*

Contoh 42:

1. *Simplify and write in the positive Exponents!*

Sederhanakan dan tulis dalam pangkat positif !

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | = |  |  | = |  |
|  | = |  |  | = |  |

1. *Simplify and write in the form of roots!*

Sederhanakan dan tulis dalam bentuk akar !

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |
|  | = |  |

1. *Simplify value!*

Sederhanakan nilainya !

|  |  |  |
| --- | --- | --- |
|  | = |  |
|  | = |  |
|  | = |  |

***Exercise 6 :***

**Latihan 6 :**

1. *Simplify and write in the positive Exponents!*

Sederhanakan dan tulis dalam pangkat positif !

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | 1. . | . |
|  |  |  |

1. *Simplify and write in the form of roots!*

Sederhanakan dan tulis dalam bentuk akar !

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

1. *Write down in value!*

Tuliskan nilainya !

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1. ***Exponents Equations***

**Persamaan Pangkat**

*Cubic equation or equations are equations that Exponents exponent includes variables.*

Persamaan pangkat atau persamaan eksponen adalah persamaan yang pangkatnya memuat variable (peubah).

*If a nonzero real number, then apply:*

Jika a bilangan real tak nol, maka berlaku :

1. *if and only if f (x) = p*

jika dan hanya jika f(x) = p

1. *if and only if f (x) = g (x)*

jika dan hanya jika f(x) = g(x)

*Example 43 :*

Contoh 43 :

1. 2. 3.

*Answer:*

Jawab :

|  |  |  |
| --- | --- | --- |
| x = 3 | 2x + 2 = -x + 5  3x = 3  X = 1 | 3x + 2 = -4x -12  7x = -14  x = -2 |

***Exercise 7 :***

**Latihan 7 :**

1. *Find the value of* ***x:***

Carilah nilai  **x** :

|  |  |  |
| --- | --- | --- |
|  |  |  |