Tugas Pertemuan 1 Persamaan Nilai Mutlak Satu Variabel

1. Tentukan himpunan penyelesaian dari |2x – 7| = 3
2. Tentukan HP dari |2x – 1| = |x + 4|
3. Tentukan nilai-nilai x yang memenuhi persamaan  
   |x + 1| + |2x – 4| = 9
4. Tentukanlah himpunan dari |3x – 1| = |x + 4|

Jawaban :

1. I2x - 7I = 3

2x - 7 = 3

2x = 3 + 7

2x = 10

x = 5

2x - 7 = -3

2x = -3 + 7

2x = 4

x = 2

**Hp = {x = 2 atau x = 5}**

1. |2x-1 | = |x+4|

(2x-1)² = (x+4)²

(2x-1)² - (x+4)² = 0

(2x-1 + x+4) (2x-1 - (x+4) = 0

(3x + 3) (x - 5) = 0

3x + 3 = 0 atau x - 5 = 0

3x = -3 x = 5

x = -1

**HP = {x = -1 atau x = 5}**

1. |x + 1| + |2x - 4| = 9

x + 1 + 2x - 4 = 9

3x - 3 = 9

3x = 9 + 3

3x = 12

x = 4

x + 1 + 2x - 4 = -9

3x - 3 = -9

3x = -9 + 3

3x = -6

x = -2

**Hp = {x = 4 atau x = -2}**

1. |3x - 1| - |x + 4|

(3x - 1)² = (x + 4)²

(3x - 1)² - (x + 4)² = 0

(3x - 1 + x + 4) (3x - 1 - x - 4) = 0

(4x + 3) (2x - 5) = 0

4x + 3 = 0 atau 2x - 5 = 0

4x = -3 2x = 5

x = -3/4 x = 5/2

**Hp = {x = -3/4 atau x = 5/2}**