*Lampiran 10. Nilai Sebelum Pembelajaran (Pre-test)*

Data Nilai *Pre-test* Kelas XI IPA 4 (kelas eksperimen 1)

|  |  |  |
| --- | --- | --- |
| **No** | **Nama Siswa** | ***PRE-TEST*** |
| **No. 1** | **No. 2** | **no. 3** | **No. 4** | **No. 5** | **No. 6** | **No. 7** | **No. 8** | **Total Skor** | **Nilai** |
| 1 | Alifah Khoirun N | 2 | 2 | 4 | 1 | 1 | 0 | 0 | 1 | 11 | 34,375 |
| 2 | Alma Rahmatia N | 2 | 0 | 4 | 2 | 2 | 1 | 0 | 0 | 11 | 34,375 |
| 3 | Amanda | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 9,375 |
| 4 | Anindya Atalie P S | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 16 | 50 |
| 5 | Ardo Muhamad S  | 2 | 2 | 2 | 0 | 1 | 0 | 0 | 1 | 8 | 25 |
| 6 | Asyra Aliya R | 1 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 7 | 21,875 |
| 7 | Azizatul Juliana S | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 4 | 12,5 |
| 8 | Diva Triana Murti | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 13 | 40,625 |
| 9 | Dyan Septi N | 2 | 1 | 2 | 2 | 2 | 1 | 0 | 0 | 10 | 31,25 |
| 10 | Elin Tiara A Z | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 5 | 15,625 |
| 11 | Enggar Fibianingtyas | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 12,5 |
| 12 | Evadya Norma Y | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 12,5 |
| 13 | Fakhri Kurnia S | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 8 | 25 |
| 14 | Fikri Rais M | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 12,5 |
| 15 | Hany Suci L | 2 | 0 | 4 | 2 | 2 | 1 | 1 | 1 | 13 | 40,625 |
| 16 | Hayyu Inge Sekar A | 3 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 11 | 34,375 |
| 17 | Ibnu Mahi S | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 7 | 21,875 |
| 18 | M Hafidz P | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 12 | 37,5 |
| 19 | M Wafiq A | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 12 | 37,5 |
| 20 | Nurmaya S | 3 | 2 | 2 | 2 | 2 | 1 | 0 | 0 | 12 | 37,5 |
| 21 | Nursimah | 2 | 1 | 1 | 2 | 2 | 1 | 0 | 0 | 9 | 28,125 |
| 22 | Pindo Wiji Astuti | 1 | 1 | 3 | 1 | 3 | 0 | 0 | 0 | 9 | 28,125 |
| 23 | Ribi Suci R | 1 | 1 | 2 | 2 | 2 | 0 | 1 | 1 | 10 | 31,25 |
| 24 | Rifdah Khoirunnisa | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 11 | 34,375 |
| 25 | Rintan Ratna D | 2 | 1 | 1 | 2 | 3 | 1 | 1 | 0 | 11 | 34,375 |
| 26 | Salwa Alya F | 2 | 0 | 4 | 2 | 2 | 1 | 1 | 1 | 13 | 40,625 |
| 27 | Sela Anggun S | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 5 | 15,625 |
| 28 | Silwati Alawiyah | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 7 | 21,875 |
| 28 | Siti Nur A | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 8 | 25 |
| 30 | Suci Rahayu | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 6 | 18,75 |
| 31 | Vonny Putri G | 3 | 2 | 2 | 1 | 2 | 0 | 0 | 0 | 10 | 31,25 |
| 32 | Wina Sailah | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 0 | 11 | 34,375 |
| 33 | Yana Meliyana | 3 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 11 | 34,375 |
| **Rata-Rata Nilai** | 8,96 | 28,03 |
| **Tertinggi** | 16 | 50 |
| **Terendah** | 3 | 9,375 |

Data Nilai *Pre-test* Kelas XI IPA 5 (kelas eksperimen 2)

|  |  |  |
| --- | --- | --- |
| **No** | **Nama Siswa** | ***Pre-test*** |
| **No. 1** | **No. 2** | **No. 3** | **No. 4** | **No. 5** | **No. 6** | **No. 7** | **No. 8** | **Total Skor** | **Nilai** |
| 34 | Aldi Ardiansyah | 1 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 14 | 43,75 |
| 35 | Anisa Aulia F | 3 | 2 | 2 | 2 | 2 | 0 | 1 | 0 | 12 | 37,5 |
| 36 | Anisa Sinta M | 1 | 0 | 2 | 1 | 2 | 1 | 1 | 1 | 9 | 28,125 |
| 37 | Anita Aulia R | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 12 | 37,5 |
| 38 | Annisa Lutfianti | 3 | 1 | 2 | 2 | 2 | 0 | 1 | 2 | 13 | 40,625 |
| 39 | Ariyo Ersan H | 1 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 9 | 28,125 |
| 40 | Cahya Wibowo | 2 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 10 | 31,25 |
| 41 | Devia Adlyn F | 3 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 13 | 40,625 |
| 42 | Dian Regina S | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 16 | 50 |
| 43 | Dzaki Ahmad Z | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 12,5 |
| 44 | Fathi Nabila S W | 1 | 1 | 2 | 1 | 2 | 0 | 1 | 1 | 9 | 28,125 |
| 45 | Hadijah Ritonga | 3 | 1 | 2 | 2 | 2 | 1 | 0 | 0 | 11 | 34,375 |
| 46 | Hafidzah Naura H | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 7 | 21,875 |
| 47 | Harun Al Rasyid | 2 | 2 | 3 | 2 | 2 | 0 | 0 | 0 | 11 | 34,375 |
| 48 | Ilham Fadilah R | 1 | 2 | 2 | 1 | 1 | 0 | 1 | 2 | 10 | 31,25 |
| 49 | Intan Nazwa N | 3 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 8 | 25 |
| 50 | Isna Fauziah  | 3 | 2 | 4 | 1 | 2 | 2 | 1 | 1 | 16 | 50 |
| 51 | Laela komariah | 2 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 6 | 18,75 |
| 52 | Muammar Amru Z | 2 | 2 | 1 | 2 | 2 | 0 | 1 | 1 | 11 | 34,375 |
| 53 | Muhammad Alfarisi | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 12 | 37,5 |
| 54 | Nabila Pinkan S | 3 | 2 | 4 | 3 | 2 | 0 | 1 | 1 | 16 | 50 |
| 55 | Putri Intan F | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 14 | 43,75 |
| 56 | Ramadhan B | 2 | 1 | 2 | 2 | 2 | 0 | 0 | 3 | 12 | 37,5 |
| 57 | Syafira Khairina P A | 2 | 0 | 2 | 2 | 2 | 0 | 1 | 0 | 9 | 28,125 |
| 58 | Syifa Savana A | 2 | 1 | 0 | 3 | 3 | 0 | 0 | 0 | 9 | 28,125 |
| 59 | Taufik Nurhidayat  | 1 | 2 | 1 | 2 | 2 | 0 | 1 | 0 | 9 | 28,125 |
| 60 | Thomas Joseph F | 3 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 14 | 43,75 |
| 61 | Trisna Dewi | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 15 | 46,875 |
| 62 | Wistu Januar P | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 11 | 34,375 |
| 63 | Yulita Aditya P | 2 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 7 | 21,875 |
| 64 | Zyahwa Amanda D | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 5 | 15,625 |
| **Rata-Rata Nilai** | 10,77 | 33,67 |
| **Tertinggi** | 16 | 50 |
| **Terendah** | 4 | 12,5 |

*Lampiran 11. Nilai Sesudah Pembelajaran (Post-test)*

Data Nilai *Post-test* Kelas XI IPA 4 (kelas eksperimen 1)

|  |  |  |
| --- | --- | --- |
| **No** | **Nama Siswa** | ***POST-TEST*** |
| **No. 1** | **No. 2** | **No. 3** | **No. 4** | **No. 5** | **No. 6** | **No. 7** | **No. 8** | **Total Skor** | **Nilai** |
| 1 | Alifah Khoirun N | 4 | 2 | 3 | 3 | 2 | 1 | 3 | 4 | 22 | 68,75 |
| 2 | Alma Rahmatia N | 4 | 2 | 4 | 2 | 2 | 2 | 1 | 4 | 21 | 65,625 |
| 3 | Amanda | 3 | 1 | 2 | 3 | 3 | 0 | 2 | 2 | 16 | 50 |
| 4 | Anindya Atalie P S | 3 | 2 | 4 | 2 | 2 | 2 | 4 | 4 | 23 | 71,875 |
| 5 | Ardo Muhamad S | 3 | 2 | 4 | 2 | 2 | 0 | 3 | 2 | 18 | 56,25 |
| 6 | Asyra Aliya R | 3 | 2 | 3 | 2 | 2 | 0 | 2 | 2 | 16 | 50 |
| 7 | Azizatul Juliana S | 2 | 2 | 4 | 2 | 2 | 0 | 0 | 2 | 14 | 43,75 |
| 8 | Diva Triana Murti | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 20 | 62,5 |
| 9 | Dyan Septi N | 3 | 2 | 3 | 2 | 2 | 2 | 1 | 0 | 15 | 46,875 |
| 10 | Elin Tiara A Z | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 0 | 14 | 43,75 |
| 11 | Enggar Fibianingtyas | 3 | 2 | 3 | 2 | 2 | 0 | 2 | 0 | 14 | 43,75 |
| 12 | Evadya Norma Y | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 14 | 43,75 |
| 13 | Fakhri Kurnia S | 3 | 2 | 4 | 3 | 2 | 1 | 3 | 3 | 21 | 65,625 |
| 14 | Fikri Rais M | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 14 | 43,75 |
| 15 | Hany Suci L | 4 | 3 | 4 | 2 | 2 | 2 | 3 | 2 | 22 | 68,75 |
| 16 | Hayyu Inge Sekar A | 4 | 2 | 3 | 3 | 2 | 1 | 2 | 2 | 19 | 59,375 |
| 17 | Ibnu Mahi S | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 13 | 40,625 |
| 18 | M Hafidz P | 2 | 2 | 3 | 2 | 3 | 0 | 2 | 3 | 17 | 53,125 |
| 19 | M Wafiq A | 2 | 2 | 3 | 2 | 2 | 1 | 2 | 1 | 15 | 46,875 |
| 20 | Nurmaya S | 4 | 2 | 3 | 3 | 2 | 2 | 1 | 1 | 18 | 56,25 |
| 21 | Nursimah | 3 | 1 | 2 | 2 | 2 | 2 | 0 | 1 | 13 | 40,625 |
| 22 | Pindo Wiji Astuti | 4 | 3 | 3 | 2 | 3 | 1 | 0 | 0 | 16 | 50 |
| 23 | Ribi Suci R | 4 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 19 | 59,375 |
| 24 | Rifdah Khoirunnisa | 3 | 1 | 4 | 2 | 2 | 2 | 3 | 2 | 19 | 59,375 |
| 25 | Rintan Ratna D | 2 | 1 | 2 | 2 | 3 | 1 | 1 | 1 | 13 | 40,625 |
| 26 | Salwa Alya F | 4 | 2 | 3 | 3 | 2 | 2 | 3 | 2 | 21 | 65,625 |
| 27 | Sela Anggun S | 4 | 2 | 4 | 1 | 4 | 0 | 4 | 3 | 22 | 68,75 |
| 28 | Silwati Alawiyah | 2 | 2 | 3 | 2 | 2 | 0 | 1 | 2 | 14 | 43,75 |
| 28 | Siti Nur A | 3 | 2 | 4 | 1 | 4 | 0 | 4 | 2 | 20 | 62,5 |
| 30 | Suci Rahayu | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 17 | 53,125 |
| 31 | Vonny Putri G | 3 | 2 | 2 | 1 | 2 | 0 | 4 | 1 | 15 | 46,875 |
| 32 | Wina Sailah | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 14 | 43,75 |
| 33 | Yana Meliyana | 3 | 2 | 4 | 2 | 2 | 1 | 2 | 0 | 16 | 50 |
| **Rata-Rata Nilai** | 17,12 | 53,504 |
| **Tertinggi** | 23 | 71,875 |
| **Terendah** | 13 | 40,625 |

Data Nilai *Post-test* Kelas XI IPA 5 (kelas eksperimen 2)

|  |  |  |
| --- | --- | --- |
| **No** | **Nama Siswa** | ***Post-test*** |
| **No. 1** | **No. 2** | **No. 3** | **No. 4** | **No. 5** | **No. 6** | **No. 7** | **No. 8** | **Total Skor** | **Nilai** |
| 34 | Aldi Ardiansyah | 4 | 2 | 4 | 3 | 3 | 1 | 1 | 2 | 20 | 62,5 |
| 35 | Anisa Aulia F | 4 | 3 | 4 | 2 | 4 | 0 | 3 | 0 | 20 | 62,5 |
| 36 | Anisa Sinta M | 3 | 2 | 3 | 2 | 4 | 0 | 1 | 1 | 16 | 50 |
| 37 | Anita Aulia R | 4 | 2 | 3 | 3 | 1 | 2 | 2 | 4 | 21 | 65,625 |
| 38 | Annisa Lutfianti | 4 | 2 | 3 | 2 | 2 | 0 | 1 | 4 | 18 | 56,25 |
| 39 | Ariyo Ersan H | 3 | 2 | 3 | 2 | 2 | 1 | 0 | 0 | 13 | 40,625 |
| 40 | Cahya Wibowo | 3 | 2 | 3 | 1 | 2 | 0 | 2 | 4 | 17 | 53,125 |
| 41 | Devia Adlyn F | 4 | 2 | 3 | 1 | 3 | 1 | 1 | 3 | 18 | 56,25 |
| 42 | Dian Regina S | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 2 | 26 | 81,25 |
| 43 | Dzaki Ahmad Z | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 10 | 31,25 |
| 44 | Fathi Nabila S W | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 1 | 14 | 43,75 |
| 45 | Hadijah Ritonga | 4 | 1 | 3 | 3 | 1 | 2 | 2 | 1 | 17 | 53,125 |
| 46 | Hafidzah Naura H | 4 | 2 | 4 | 2 | 3 | 2 | 2 | 1 | 20 | 62,5 |
| 47 | Harun Al Rasyid | 4 | 3 | 4 | 4 | 4 | 0 | 4 | 3 | 26 | 81,25 |
| 48 | Ilham Fadilah R | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 3 | 16 | 50 |
| 49 | Intan Nazwa N | 3 | 1 | 3 | 1 | 2 | 1 | 2 | 1 | 14 | 43,75 |
| 50 | Isna Fauziah | 4 | 2 | 4 | 4 | 4 | 2 | 4 | 3 | 27 | 84,375 |
| 51 | Laela komariah | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 4 | 22 | 68,75 |
| 52 | Muammar Amru Z | 2 | 2 | 3 | 2 | 2 | 0 | 0 | 3 | 14 | 43,75 |
| 53 | Muhammad Alfarisi | 3 | 2 | 2 | 2 | 2 | 1 | 0 | 4 | 16 | 50 |
| 54 | Nabila Pinkan S | 4 | 2 | 4 | 4 | 2 | 0 | 1 | 2 | 19 | 59,375 |
| 55 | Putri Intan F | 4 | 2 | 4 | 4 | 4 | 1 | 3 | 4 | 26 | 81,25 |
| 56 | Ramadhan B | 3 | 2 | 3 | 2 | 2 | 0 | 0 | 4 | 16 | 50 |
| 57 | Syafira Khairina P A | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 15 | 46,875 |
| 58 | Syifa Savana A | 3 | 2 | 3 | 3 | 3 | 2 | 1 | 4 | 21 | 65,625 |
| 59 | Taufik Nurhidayat | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 17 | 53,125 |
| 60 | Thomas Joseph F | 3 | 2 | 3 | 2 | 3 | 0 | 1 | 4 | 18 | 56,25 |
| 61 | Trisna Dewi | 4 | 1 | 4 | 4 | 4 | 2 | 4 | 4 | 27 | 84,375 |
| 62 | Wistu Januar P | 4 | 2 | 2 | 2 | 2 | 2 | 1 | 4 | 19 | 59,375 |
| 63 | Yulita Aditya P | 4 | 1 | 3 | 3 | 3 | 1 | 1 | 2 | 18 | 56,25 |
| 64 | Zyahwa Amanda D | 4 | 3 | 4 | 4 | 4 | 2 | 4 | 1 | 26 | 81,25 |
| **Rata-Rata Nilai** | 18,93 | 59,17 |
| **Tertinggi** | 27 | 84,37 |
| **Terendah** | 10 | 31,25 |

*Lampiran 12. Data N-Gain Kemampuan Berpikir Kritis*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Nama Siswa** | ***Pre-test*** | ***Post-test*** | **Kenaikan** | ***N-Gain*** | **Kategori** |
| 1 | Alifah Khoirun N | 34,375 | 68,75 | 34,375 | 0,52381 | Sedang |
| 2 | Alma Rahmatia N | 34,375 | 65,625 | 31,25 | 0,47619 | Sedang |
| 3 | Amanda | 9,375 | 50 | 40,625 | 0,448276 | Sedang |
| 4 | Anindya Atalie P S | 50 | 71,875 | 21,875 | 0,4375 | Sedang |
| 5 | Ardo Muhamad S  | 25 | 56,25 | 31,25 | 0,416667 | Sedang |
| 6 | Asyra Aliya R | 21,875 | 50 | 28,125 | 0,36 | Sedang |
| 7 | Azizatul Juliana S | 12,5 | 43,75 | 31,25 | 0,357143 | Sedang |
| 8 | Diva Triana Murti | 40,625 | 62,5 | 21,875 | 0,368421 | Sedang |
| 9 | Dyan Septi N | 31,25 | 46,875 | 15,625 | 0,227273 | Rendah |
| 10 | Elin Tiara A Z | 15,625 | 43,75 | 28,125 | 0,333333 | Sedang |
| 11 | Enggar Fibianingtyas | 12,5 | 43,75 | 31,25 | 0,357143 | Sedang |
| 12 | Evadya Norma Y | 12,5 | 43,75 | 31,25 | 0,357143 | Sedang |
| 13 | Fakhri Kurnia S | 25 | 65,625 | 40,625 | 0,541667 | Sedang |
| 14 | Fikri Rais M | 12,5 | 43,75 | 31,25 | 0,357143 | Sedang |
| 15 | Hany Suci L | 40,625 | 68,75 | 28,125 | 0,473684 | Sedang |
| 16 | Hayyu Inge Sekar A | 34,375 | 59,375 | 25 | 0,380952 | Sedang |
| 17 | Ibnu Mahi S | 21,875 | 40,625 | 18,75 | 0,24 | Rendah |
| 18 | M Hafidz P | 37,5 | 53,125 | 15,625 | 0,25 | Rendah |
| 19 | M Wafiq A | 37,5 | 46,875 | 9,375 | 0,15 | Rendah |
| 20 | Nurmaya S | 37,5 | 56,25 | 18,75 | 0,3 | Sedang |
| 21 | Nursimah | 28,125 | 40,625 | 12,5 | 0,173913 | Rendah |
| 22 | Pindo Wiji Astuti | 28,125 | 50 | 21,875 | 0,304348 | Sedang |
| 23 | Ribi Suci R | 31,25 | 59,375 | 28,125 | 0,409091 | Sedang |
| 24 | Rifdah Khoirunnisa | 34,375 | 59,375 | 25 | 0,380952 | Sedang |
| 25 | Rintan Ratna D | 34,375 | 40,625 | 6,25 | 0,095238 | Rendah |
| 26 | Salwa Alya F | 40,625 | 65,625 | 25 | 0,421053 | Sedang |
| 27 | Sela Anggun S | 15,625 | 68,75 | 53,125 | 0,62963 | Sedang |
| 28 | Silwati Alawiyah | 21,875 | 43,75 | 21,875 | 0,28 | Rendah |
| 28 | Siti Nur A | 25 | 62,5 | 37,5 | 0,5 | Sedang |
| 30 | Suci Rahayu | 18,75 | 53,125 | 34,375 | 0,423077 | Sedang |
| 31 | Vonny Putri G | 31,25 | 46,875 | 15,625 | 0,227273 | Rendah |
| 32 | Wina Sailah | 34,375 | 43,75 | 9,375 | 0,142857 | Rendah |
| 33 | Yana Meliyana | 34,375 | 50 | 15,625 | 0,238095 | Rendah |
| 34 | Aldi Ardiansyah | 43,75 | 62,5 | 18,75 | 0,333333 | Sedang |
| 35 | Anisa Aulia F | 37,5 | 62,5 | 25 | 0,4 | Sedang |
| 36 | Anisa Sinta M | 28,125 | 50 | 21,875 | 0,304348 | Sedang |
| 37 | Anita Aulia R | 37,5 | 65,625 | 28,125 | 0,45 | Sedang |
| 38 | Annisa Lutfianti | 40,625 | 56,25 | 15,625 | 0,263158 | Rendah |
| 39 | Ariyo Ersan H | 28,125 | 40,625 | 12,5 | 0,173913 | Rendah |
| 40 | Cahya Wibowo | 31,25 | 53,125 | 21,875 | 0,318182 | Sedang |
| 41 | Devia Adlyn F | 40,625 | 56,25 | 15,625 | 0,263158 | Rendah |
| 42 | Dian Regina S | 50 | 81,25 | 31,25 | 0,625 | Sedang |
| 43 | Dzaki Ahmad Z | 12,5 | 31,25 | 18,75 | 0,214286 | Rendah |
| 44 | Fathi Nabila S W | 28,125 | 43,75 | 15,625 | 0,217391 | Rendah |
| 45 | Hadijah Ritonga | 34,375 | 53,125 | 18,75 | 0,285714 | Rendah |
| 46 | Hafidzah Naura H | 21,875 | 62,5 | 40,625 | 0,52 | Sedang |
| 47 | Harun Al Rasyid | 34,375 | 81,25 | 46,875 | 0,714286 | Tinggi |
| 48 | Ilham Fadilah R | 31,25 | 50 | 18,75 | 0,272727 | Sedang |
| 49 | Intan Nazwa N | 25 | 43,75 | 18,75 | 0,25 | Rendah |
| 50 | Isna Fauziah  | 50 | 84,375 | 34,375 | 0,6875 | Sedang |
| 51 | Laela komariah | 18,75 | 68,75 | 50 | 0,615385 | Sedang |
| 52 | Muammar Amru Z | 34,375 | 43,75 | 9,375 | 0,142857 | Rendah |
| 53 | Muhammad Alfarisi | 37,5 | 50 | 12,5 | 0,2 | Rendah |
| 54 | Nabila Pinkan S | 50 | 59,375 | 9,375 | 0,1875 | Rendah |
| 55 | Putri Intan F | 43,75 | 81,25 | 37,5 | 0,666667 | Sedang |
| 56 | Ramadhan B | 37,5 | 50 | 12,5 | 0,2 | Rendah |
| 57 | Syafira Khairina P A | 28,125 | 46,875 | 18,75 | 0,26087 | Rendah |
| 58 | Syifa Savana A | 28,125 | 65,625 | 37,5 | 0,521739 | Sedang |
| 59 | Taufik Nurhidayat  | 28,125 | 53,125 | 25 | 0,347826 | Sedang |
| 60 | Thomas Joseph F | 43,75 | 56,25 | 12,5 | 0,222222 | Rendah |
| 61 | Trisna Dewi | 46,875 | 84,375 | 37,5 | 0,705882 | Tinggi |
| 62 | Wistu Januar P | 34,375 | 59,375 | 25 | 0,380952 | Sedang |
| 63 | Yulita Aditya P | 21,875 | 56,25 | 34,375 | 0,44 | Sedang |
| 64 | zyahwa Amanda D | 15,625 | 81,25 | 65,625 | 0,777778 | Tinggi |
| **Rata-Rata N-Gain** |  | 0,367884 | Sedang |
| **N-Gain Maksimum** |  | 0,777778 | Tinggi |
| **N-Gain Minimum** |  | 0,095238 | Rendah |

*Lampiran 13. Hasil Analisis Soal Pre-test Kemampuan Berpikir Kritis*

|  |  |  |
| --- | --- | --- |
| **No** | **Nama Siswa** | **Indikator kemampuan berpikir kritis** |
| **1** | **2** | **3** | **4** | **5** |
| 1 | Alifah Khoirun N | 2 | 2 | 5 | 1 | 1 |
| 2 | Alma Rahmatia N | 2 | 0 | 6 | 3 | 0 |
| 3 | Amanda | 3 | 0 | 0 | 0 | 0 |
| 4 | Anindya Atalie P S | 3 | 2 | 4 | 4 | 3 |
| 5 | Ardo Muhamad S  | 2 | 2 | 2 | 1 | 1 |
| 6 | Asyra Aliya R | 1 | 0 | 4 | 2 | 0 |
| 7 | Azizatul Juliana S | 1 | 0 | 3 | 0 | 0 |
| 8 | Diva Triana Murti | 3 | 2 | 4 | 3 | 1 |
| 9 | Dyan Septi N | 2 | 1 | 4 | 3 | 0 |
| 10 | Elin Tiara A Z | 2 | 0 | 3 | 0 | 0 |
| 11 | Enggar Fibianingtyas | 1 | 2 | 0 | 0 | 1 |
| 12 | Evadya Norma Y | 2 | 1 | 0 | 0 | 1 |
| 13 | Fakhri Kurnia S | 2 | 2 | 4 | 0 | 0 |
| 14 | Fikri Rais M | 2 | 2 | 0 | 0 | 0 |
| 15 | Hany Suci L | 2 | 0 | 6 | 3 | 2 |
| 16 | Hayyu Inge Sekar A | 3 | 0 | 3 | 3 | 2 |
| 17 | Ibnu Mahi S | 2 | 1 | 4 | 0 | 0 |
| 18 | M Hafidz P | 1 | 2 | 4 | 3 | 2 |
| 19 | M Wafiq A | 2 | 2 | 3 | 3 | 2 |
| 20 | Nurmaya S | 3 | 2 | 4 | 3 | 0 |
| 21 | Nursimah | 2 | 1 | 3 | 3 | 0 |
| 22 | Pindo Wiji Astuti | 1 | 1 | 4 | 3 | 0 |
| 23 | Ribi Suci R | 1 | 1 | 4 | 2 | 2 |
| 24 | Rifdah Khoirunnisa | 2 | 1 | 3 | 3 | 2 |
| 25 | Rintan Ratna D | 2 | 1 | 3 | 4 | 1 |
| 26 | Salwa Alya F | 2 | 0 | 6 | 3 | 2 |
| 27 | Sela Anggun S | 2 | 1 | 2 | 0 | 0 |
| 28 | Silwati Alawiyah | 2 | 1 | 1 | 1 | 2 |
| 28 | Siti Nur A | 2 | 2 | 3 | 0 | 1 |
| 30 | Suci Rahayu | 1 | 2 | 2 | 0 | 1 |
| 31 | Vonny Putri G | 3 | 2 | 3 | 2 | 0 |
| 32 | Wina Sailah | 2 | 1 | 4 | 3 | 1 |
| 33 | Yana Meliyana | 3 | 2 | 4 | 2 | 0 |
| 34 | Aldi Ardiansyah | 1 | 2 | 5 | 3 | 3 |
| 35 | Anisa Aulia F | 3 | 2 | 4 | 2 | 1 |
| 36 | Anisa Sinta M | 1 | 0 | 3 | 3 | 2 |
| 37 | Anita Aulia R | 1 | 2 | 3 | 3 | 3 |
| 38 | Annisa Lutfianti | 3 | 1 | 4 | 2 | 3 |
| 39 | Ariyo Ersan H | 1 | 2 | 4 | 2 | 0 |
| 40 | Cahya Wibowo | 2 | 2 | 3 | 0 | 3 |
| 41 | Devia Adlyn F | 3 | 1 | 3 | 3 | 3 |
| 42 | Dian Regina S | 3 | 2 | 5 | 3 | 3 |
| 43 | Dzaki Ahmad Z | 2 | 2 | 0 | 0 | 0 |
| 44 | Fathi Nabila S W | 1 | 1 | 3 | 2 | 2 |
| 45 | Hadijah Ritonga | 3 | 1 | 4 | 3 | 0 |
| 46 | Hafidzah Naura H | 1 | 1 | 1 | 3 | 1 |
| 47 | Harun Al Rasyid | 2 | 2 | 5 | 2 | 0 |
| 48 | Ilham Fadilah R | 1 | 2 | 3 | 1 | 3 |
| 49 | Intan Nazwa N | 3 | 1 | 1 | 2 | 1 |
| 50 | Isna Fauziah  | 3 | 2 | 5 | 4 | 2 |
| 51 | Laela komariah | 2 | 1 | 2 | 0 | 1 |
| 52 | Muammar Amru Z | 2 | 2 | 3 | 2 | 2 |
| 53 | Muhammad Alfarisi | 1 | 2 | 3 | 3 | 3 |
| 54 | Nabila Pinkan S | 3 | 2 | 7 | 2 | 2 |
| 55 | Putri Intan F | 3 | 1 | 2 | 4 | 4 |
| 56 | Ramadhan B | 2 | 1 | 4 | 2 | 3 |
| 57 | Syafira Khairina P A | 2 | 0 | 4 | 2 | 1 |
| 58 | Syifa Savana A | 2 | 1 | 3 | 3 | 0 |
| 59 | Taufik Nurhidayat  | 1 | 2 | 3 | 2 | 1 |
| 60 | Thomas Joseph F | 3 | 1 | 4 | 3 | 3 |
| 61 | Trisna Dewi | 2 | 1 | 4 | 4 | 4 |
| 62 | Wistu Januar P | 1 | 2 | 3 | 3 | 2 |
| 63 | Yulita Aditya P | 2 | 1 | 2 | 2 | 0 |
| 64 | Zyahwa Amanda D | 2 | 1 | 2 | 0 | 0 |
| **Jumlah** | 128 | 83 | 207 | 128 | 84 |
| **Skor** | 0,5 | 0,324219 | 0,404297 | 0,25 | 0,164063 |
| **Persentase** | 50% | 32% | 40% | 25% | 16% |

Keterangan Indikator:

1. Menganalisis Argumen
2. Bertanya dan menjawab pertanyaan
3. menginduksi dan mempertimbangkan hasil induksi
4. membuat dan menentukan hasil pertimbangan
5. menentukan suatu tindakan

*Lampiran 14. Hasil Analisis Soal Post-test Kemampuan Berpikir Kritis*

|  |  |  |
| --- | --- | --- |
| **No** | **Nama Siswa** | **Indikator Kemampuan Berpikir Kritis** |
| **1** | **2** | **3** | **4** | **5** |
| 1 | Alifah Khoirun N | 4 | 2 | 6 | 3 | 7 |
| 2 | Alma Rahmatia N | 4 | 2 | 6 | 4 | 5 |
| 3 | Amanda | 3 | 1 | 5 | 3 | 4 |
| 4 | Anindya Atalie P S | 3 | 2 | 6 | 4 | 8 |
| 5 | Ardo Muhamad S  | 3 | 2 | 6 | 2 | 5 |
| 6 | Asyra Aliya R | 3 | 2 | 5 | 2 | 4 |
| 7 | Azizatul Juliana S | 2 | 2 | 6 | 2 | 2 |
| 8 | Diva Triana Murti | 3 | 2 | 6 | 5 | 4 |
| 9 | Dyan Septi N | 3 | 2 | 5 | 4 | 1 |
| 10 | Elin Tiara A Z | 3 | 1 | 4 | 4 | 2 |
| 11 | Enggar Fibianingtyas | 3 | 2 | 5 | 2 | 2 |
| 12 | Evadya Norma Y | 2 | 2 | 4 | 4 | 2 |
| 13 | Fakhri Kurnia S | 3 | 2 | 7 | 3 | 6 |
| 14 | Fikri Rais M | 2 | 2 | 4 | 3 | 3 |
| 15 | Hany Suci L | 4 | 3 | 6 | 4 | 5 |
| 16 | Hayyu Inge Sekar A | 4 | 2 | 6 | 3 | 4 |
| 17 | Ibnu Mahi S | 3 | 2 | 4 | 3 | 1 |
| 18 | M Hafidz P | 2 | 2 | 5 | 3 | 5 |
| 19 | M Wafiq A | 2 | 2 | 5 | 3 | 3 |
| 20 | Nurmaya S | 4 | 2 | 6 | 4 | 2 |
| 21 | Nursimah | 3 | 1 | 4 | 4 | 1 |
| 22 | Pindo Wiji Astuti | 4 | 3 | 5 | 4 | 0 |
| 23 | Ribi Suci R | 4 | 2 | 5 | 4 | 4 |
| 24 | Rifdah Khoirunnisa | 3 | 1 | 6 | 4 | 5 |
| 25 | Rintan Ratna D | 2 | 1 | 4 | 4 | 2 |
| 26 | Salwa Alya F | 4 | 2 | 6 | 4 | 5 |
| 27 | Sela Anggun S | 4 | 2 | 5 | 4 | 7 |
| 28 | Silwati Alawiyah | 2 | 2 | 5 | 2 | 3 |
| 29 | Siti Nur A | 3 | 2 | 5 | 4 | 6 |
| 30 | Suci Rahayu | 3 | 2 | 5 | 4 | 3 |
| 31 | Vonny Putri G | 3 | 2 | 3 | 2 | 5 |
| 32 | Wina Sailah | 2 | 1 | 4 | 4 | 3 |
| 33 | Yana Meliyana | 3 | 2 | 6 | 3 | 2 |
| 34 | Aldi Ardiansyah | 4 | 2 | 7 | 4 | 3 |
| 35 | Anisa Aulia F | 4 | 3 | 6 | 4 | 3 |
| 36 | Anisa Sinta M | 3 | 2 | 5 | 4 | 2 |
| 37 | Anita Aulia R | 4 | 2 | 6 | 3 | 6 |
| 38 | Annisa Lutfianti | 4 | 2 | 5 | 2 | 5 |
| 39 | Ariyo Ersan H | 3 | 2 | 5 | 3 | 0 |
| 40 | Cahya Wibowo | 3 | 2 | 4 | 2 | 6 |
| 41 | Devia Adlyn F | 4 | 2 | 4 | 4 | 4 |
| 42 | Dian Regina S | 4 | 2 | 8 | 6 | 6 |
| 43 | Dzaki Ahmad Z | 2 | 2 | 4 | 2 | 0 |
| 44 | Fathi Nabila S W | 2 | 1 | 5 | 4 | 2 |
| 45 | Hadijah Ritonga | 4 | 1 | 6 | 3 | 3 |
| 46 | Hafidzah Naura H | 4 | 2 | 6 | 5 | 3 |
| 47 | Harun Al Rasyid | 4 | 3 | 8 | 4 | 7 |
| 48 | Ilham Fadilah R | 3 | 2 | 4 | 3 | 4 |
| 49 | Intan Nazwa N | 3 | 1 | 4 | 3 | 3 |
| 50 | Isna Fauziah  | 4 | 2 | 8 | 6 | 7 |
| 51 | Laela komariah | 3 | 2 | 6 | 5 | 6 |
| 52 | Muammar Amru Z | 2 | 2 | 5 | 2 | 3 |
| 53 | Muhammad Alfarisi | 3 | 2 | 4 | 3 | 4 |
| 54 | Nabila Pinkan S | 4 | 2 | 8 | 2 | 3 |
| 55 | Putri Intan F | 4 | 2 | 8 | 5 | 7 |
| 56 | Ramadhan B | 3 | 2 | 5 | 2 | 4 |
| 57 | Syafira Khairina P A | 3 | 2 | 5 | 3 | 2 |
| 58 | Syifa Savana A | 3 | 2 | 6 | 5 | 5 |
| 59 | Taufik Nurhidayat  | 2 | 2 | 6 | 5 | 2 |
| 60 | Thomas Joseph F | 3 | 2 | 5 | 3 | 5 |
| 61 | Trisna Dewi | 4 | 1 | 8 | 6 | 8 |
| 62 | Wistu Januar P | 4 | 2 | 4 | 4 | 5 |
| 63 | Yulita Aditya P | 4 | 1 | 6 | 4 | 3 |
| 64 | Zyahwa Amanda D | 4 | 3 | 8 | 6 | 5 |
| **jumlah** | 205 | 122 | 349 | 229 | 247 |
| **Skor** | 0,800781 | 0,476563 | 0,681641 | 0,447266 | 0,482422 |
| **Persentase** | 80% | 47% | 68% | 44% | 48% |

Keterangan Indikator:

1. Menganalisis Argumen
2. Bertanya dan menjawab pertanyaan
3. menginduksi dan mempertimbangkan hasil induksi
4. membuat dan menentukan hasil pertimbangan
5. menentukan suatu tindakan

*Lampiran 15. Data N-Gain Indikator Kemampuan Berpikir Kritis*

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Nama Siswa** | **Indikator Kemampuan berpikir Kritis** | **N-gain** |
| **1** | **2** | **3** | **4** | **5** |
| **Pre** | **Post** | **Pre** | **Post** | **Pre** | **Post** | **Pre** | **Post** | **Pre** | **Post** | **Indikator 1** | **Indikator 2** | **Indikator 3** | **Indikator 4** | **Indikator 5** |
| 1 | Alifah K N | 2 | 4 | 2 | 2 | 5 | 6 | 1 | 3 | 1 | 7 | 1 | 0 | 0,33333333 | 0,28571429 | 0,85714286 |
| 2 | Alma R N | 2 | 4 | 0 | 2 | 6 | 6 | 3 | 4 | 0 | 5 | 1 | 0,5 | 0 | 0,2 | 0,625 |
| 3 | Amanda | 3 | 3 | 0 | 1 | 0 | 5 | 0 | 3 | 0 | 4 | 0 | 0,25 | 0,625 | 0,375 | 0,5 |
| 4 | Anindya Atalie | 3 | 3 | 2 | 2 | 4 | 6 | 4 | 4 | 3 | 8 | 0 | 0 | 0,5 | 0 | 1 |
| 5 | Ardo Muhamad  | 2 | 3 | 2 | 2 | 2 | 6 | 1 | 2 | 1 | 5 | 0,5 | 0 | 0,66666667 | 0,14285714 | 0,57142857 |
| 6 | Asyra Aliya R | 1 | 3 | 0 | 2 | 4 | 5 | 2 | 2 | 0 | 4 | 0,66666667 | 0,5 | 0,25 | 0 | 0,5 |
| 7 | Azizatul Juliana  | 1 | 2 | 0 | 2 | 3 | 6 | 0 | 2 | 0 | 2 | 0,33333333 | 0,5 | 0,6 | 0,25 | 0,25 |
| 8 | Diva Triana M | 3 | 3 | 2 | 2 | 4 | 6 | 3 | 5 | 1 | 4 | 0 | 0 | 0,5 | 0,4 | 0,42857143 |
| 9 | Dyan Septi N | 2 | 3 | 1 | 2 | 4 | 5 | 3 | 4 | 0 | 1 | 0,5 | 0,33333333 | 0,25 | 0,2 | 0,125 |
| 10 | Elin Tiara A Z | 2 | 3 | 0 | 1 | 3 | 4 | 0 | 4 | 0 | 2 | 0,5 | 0,25 | 0,2 | 0,5 | 0,25 |
| 11 | Enggar F | 1 | 3 | 2 | 2 | 0 | 5 | 0 | 2 | 1 | 2 | 0,66666667 | 0 | 0,625 | 0,25 | 0,14285714 |
| 12 | Evadya N Y | 2 | 2 | 1 | 2 | 0 | 4 | 0 | 4 | 1 | 2 | 0 | 0,33333333 | 0,5 | 0,5 | 0,14285714 |
| 13 | Fakhri Kurnia S | 2 | 3 | 2 | 2 | 4 | 7 | 0 | 3 | 0 | 6 | 0,5 | 0 | 0,75 | 0,375 | 0,75 |
| 14 | Fikri Rais M | 2 | 2 | 2 | 2 | 0 | 4 | 0 | 3 | 0 | 3 | 0 | 0 | 0,5 | 0,375 | 0,375 |
| 15 | Hany Suci L | 2 | 4 | 0 | 3 | 6 | 6 | 3 | 4 | 2 | 5 | 1 | 0,75 | 0 | 0,2 | 0,5 |
| 16 | Hayyu Inge S A | 3 | 4 | 0 | 2 | 3 | 6 | 3 | 3 | 2 | 4 | 1 | 0,5 | 0,6 | 0 | 0,33333333 |
| 17 | Ibnu Mahi S | 2 | 3 | 1 | 2 | 4 | 4 | 0 | 3 | 0 | 1 | 0,5 | 0,33333333 | 0 | 0,375 | 0,125 |
| 18 | M Hafidz P | 1 | 2 | 2 | 2 | 4 | 5 | 3 | 3 | 2 | 5 | 0,33333333 | 0 | 0,25 | 0 | 0,5 |
| 19 | M Wafiq A | 2 | 2 | 2 | 2 | 3 | 5 | 3 | 3 | 2 | 3 | 0 | 0 | 0,4 | 0 | 0,16666667 |
| 20 | Nurmaya S | 3 | 4 | 2 | 2 | 4 | 6 | 3 | 4 | 0 | 2 | 1 | 0 | 0,5 | 0,2 | 0,25 |
| 21 | Nursimah | 2 | 3 | 1 | 1 | 3 | 4 | 3 | 4 | 0 | 1 | 0,5 | 0 | 0,2 | 0,2 | 0,125 |
| 22 | Pindo Wiji A | 1 | 4 | 1 | 3 | 4 | 5 | 3 | 4 | 0 | 0 | 1 | 0,66666667 | 0,25 | 0,2 | 0 |
| 23 | Ribi Suci R | 1 | 4 | 1 | 2 | 4 | 5 | 2 | 4 | 2 | 4 | 1 | 0,33333333 | 0,25 | 0,33333333 | 0,33333333 |
| 24 | Rifdah K | 2 | 3 | 1 | 1 | 3 | 6 | 3 | 4 | 2 | 5 | 0,5 | 0 | 0,6 | 0,2 | 0,5 |
| 25 | Rintan Ratna D | 2 | 2 | 1 | 1 | 3 | 4 | 4 | 4 | 1 | 2 | 0 | 0 | 0,2 | 0 | 0,14285714 |
| 26 | Salwa Alya F | 2 | 4 | 0 | 2 | 6 | 6 | 3 | 4 | 2 | 5 | 1 | 0,5 | 0 | 0,2 | 0,5 |
| 27 | Sela Anggun S | 2 | 4 | 1 | 2 | 2 | 5 | 0 | 4 | 0 | 7 | 1 | 0,33333333 | 0,5 | 0,5 | 0,875 |
| 28 | Silwati A | 2 | 2 | 1 | 2 | 1 | 5 | 1 | 2 | 2 | 3 | 0 | 0,33333333 | 0,57142857 | 0,14285714 | 0,16666667 |
| 29 | Siti Nur A | 2 | 3 | 2 | 2 | 3 | 5 | 0 | 4 | 1 | 6 | 0,5 | 0 | 0,4 | 0,5 | 0,71428571 |
| 30 | Suci Rahayu | 1 | 3 | 2 | 2 | 2 | 5 | 0 | 4 | 1 | 3 | 0,66666667 | 0 | 0,5 | 0,5 | 0,28571429 |
| 31 | Vonny Putri G | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0,625 |
| 32 | Wina Sailah | 2 | 2 | 1 | 1 | 4 | 4 | 3 | 4 | 1 | 3 | 0 | 0 | 0 | 0,2 | 0,28571429 |
| 33 | Yana Meliyana | 3 | 3 | 2 | 2 | 4 | 6 | 2 | 3 | 0 | 2 | 0 | 0 | 0,5 | 0,16666667 | 0,25 |
| 34 | Aldi Ardiansyah | 1 | 4 | 2 | 2 | 5 | 7 | 3 | 4 | 3 | 3 | 1 | 0 | 0,66666667 | 0,2 | 0 |
| 35 | Anisa Aulia F | 3 | 4 | 2 | 3 | 4 | 6 | 2 | 4 | 1 | 3 | 1 | 0,5 | 0,5 | 0,33333333 | 0,28571429 |
| 36 | Anisa Sinta M | 1 | 3 | 0 | 2 | 3 | 5 | 3 | 4 | 2 | 2 | 0,66666667 | 0,5 | 0,4 | 0,2 | 0 |
| 37 | Anita Aulia R | 1 | 4 | 2 | 2 | 3 | 6 | 3 | 3 | 3 | 6 | 1 | 0 | 0,6 | 0 | 0,6 |
| 38 | Annisa Lutfianti | 3 | 4 | 1 | 2 | 4 | 5 | 2 | 2 | 3 | 5 | 1 | 0,33333333 | 0,25 | 0 | 0,4 |
| 39 | Ariyo Ersan H | 1 | 3 | 2 | 2 | 4 | 5 | 2 | 3 | 0 | 0 | 0,66666667 | 0 | 0,25 | 0,16666667 | 0 |
| 40 | Cahya Wibowo | 2 | 3 | 2 | 2 | 3 | 4 | 0 | 2 | 3 | 6 | 0,5 | 0 | 0,2 | 0,25 | 0,6 |
| 41 | Devia Adlyn F | 3 | 4 | 1 | 2 | 3 | 4 | 3 | 4 | 3 | 4 | 1 | 0,33333333 | 0,2 | 0,2 | 0,2 |
| 42 | Dian Regina S | 3 | 4 | 2 | 2 | 5 | 8 | 3 | 6 | 3 | 6 | 1 | 0 | 1 | 0,6 | 0,6 |
| 43 | Dzaki Ahmad Z | 2 | 2 | 2 | 2 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0,5 | 0,25 | 0 |
| 44 | Fathi Nabila S  | 1 | 2 | 1 | 1 | 3 | 5 | 2 | 4 | 2 | 2 | 0,33333333 | 0 | 0,4 | 0,33333333 | 0 |
| 45 | Hadijah Ritonga | 3 | 4 | 1 | 1 | 4 | 6 | 3 | 3 | 0 | 3 | 1 | 0 | 0,5 | 0 | 0,375 |
| 46 | Hafidzah N H | 1 | 4 | 1 | 2 | 1 | 6 | 3 | 5 | 1 | 3 | 1 | 0,33333333 | 0,71428571 | 0,4 | 0,28571429 |
| 47 | Harun Al R | 2 | 4 | 2 | 3 | 5 | 8 | 2 | 4 | 0 | 7 | 1 | 0,5 | 1 | 0,33333333 | 0,875 |
| 48 | Ilham Fadilah R | 1 | 3 | 2 | 2 | 3 | 4 | 1 | 3 | 3 | 4 | 0,66666667 | 0 | 0,2 | 0,28571429 | 0,2 |
| 49 | Intan Nazwa N | 3 | 3 | 1 | 1 | 1 | 4 | 2 | 3 | 1 | 3 | 0 | 0 | 0,42857143 | 0,16666667 | 0,28571429 |
| 50 | Isna Fauziah  | 3 | 4 | 2 | 2 | 5 | 8 | 4 | 6 | 2 | 7 | 1 | 0 | 1 | 0,5 | 0,83333333 |
| 51 | Laela komariah | 2 | 3 | 1 | 2 | 2 | 6 | 0 | 5 | 1 | 6 | 0,5 | 0,33333333 | 0,66666667 | 0,625 | 0,71428571 |
| 52 | Muammar A Z | 2 | 2 | 2 | 2 | 3 | 5 | 2 | 2 | 2 | 3 | 0 | 0 | 0,4 | 0 | 0,16666667 |
| 53 | M. Alfarisi | 1 | 3 | 2 | 2 | 3 | 4 | 3 | 3 | 3 | 4 | 0,66666667 | 0 | 0,2 | 0 | 0,2 |
| 54 | Nabila Pinkan S | 3 | 4 | 2 | 2 | 7 | 8 | 2 | 2 | 2 | 3 | 1 | 0 | 1 | 0 | 0,16666667 |
| 55 | Putri Intan F | 3 | 4 | 1 | 2 | 2 | 8 | 4 | 5 | 4 | 7 | 1 | 0,33333333 | 1 | 0,25 | 0,75 |
| 56 | Ramadhan B | 2 | 3 | 1 | 2 | 4 | 5 | 2 | 2 | 3 | 4 | 0,5 | 0,33333333 | 0,25 | 0 | 0,2 |
| 57 | Syafira Khairina  | 2 | 3 | 0 | 2 | 4 | 5 | 2 | 3 | 1 | 2 | 0,5 | 0,5 | 0,25 | 0,16666667 | 0,14285714 |
| 58 | Syifa Savana A | 2 | 3 | 1 | 2 | 3 | 6 | 3 | 5 | 0 | 5 | 0,5 | 0,33333333 | 0,6 | 0,4 | 0,625 |
| 59 | Taufik N  | 1 | 2 | 2 | 2 | 3 | 6 | 2 | 5 | 1 | 2 | 0,33333333 | 0 | 0,6 | 0,5 | 0,14285714 |
| 60 | Thomas J F | 3 | 3 | 1 | 2 | 4 | 5 | 3 | 3 | 3 | 5 | 0 | 0,33333333 | 0,25 | 0 | 0,4 |
| 61 | Trisna Dewi | 2 | 4 | 1 | 1 | 4 | 8 | 4 | 6 | 4 | 8 | 1 | 0 | 1 | 0,5 | 1 |
| 62 | Wistu Januar P | 1 | 4 | 2 | 2 | 3 | 4 | 3 | 4 | 2 | 5 | 1 | 0 | 0,2 | 0,2 | 0,5 |
| 63 | Yulita Aditya P | 2 | 4 | 1 | 1 | 2 | 6 | 2 | 4 | 0 | 3 | 1 | 0 | 0,66666667 | 0,33333333 | 0,375 |
| 64 | zyahwa Amanda  | 2 | 4 | 1 | 3 | 2 | 8 | 0 | 6 | 0 | 5 | 1 | 0,66666667 | 1 | 0,75 | 0,625 |
| **Rata-Rata** | 0,5859375 | 0,18359375 | 0,45178571 | 0,24555432 | 0,38664435 |

*Lampiran 16. Statistik deskriptif hasil pre-test dan post-test*

|  |
| --- |
| **Descriptive Statistics** |
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| *Pre-test* | 64 | 9 | 50 | 30.34 | 10.496 |
| *Post-test* | 64 | 31 | 84 | 55.80 | 12.324 |
| Valid N (listwise) | 64 |  |  |  |  |

*Lampiran 17. Uji Normalitas Data Kemampuan Berpikir Kritis*

|  |
| --- |
| **One-Sample Kolmogorov-Smirnov Test** |
|  | *Pre-test* | *Post-test* |
| N | 64 | 64 |
| Normal Parametersa,b | Mean | 30.34 | 55.80 |
| Std. Deviation | 10.496 | 12.324 |
| Most Extreme Differences | Absolute | .121 | .103 |
| Positive | .069 | .103 |
| Negative | -.121 | -.084 |
| Kolmogorov-Smirnov Z | .965 | .823 |
| Asymp. Sig. (2-tailed) | .310 | .508 |
| a. Test distribution is Normal. |
| b. Calculated from data. |

*Lampiran 18. Uji Paired Sample T-Test*

|  |
| --- |
| **Paired Samples Statistics** |
|  | Mean | N | Std. Deviation | Std. Error Mean |
| Pair 1 | *Pre-test* | 30.34 | 64 | 10.496 | 1.312 |
| *Post-test* | 55.80 | 64 | 12.324 | 1.540 |

|  |
| --- |
| **Paired Samples Correlations** |
|  | N | Correlation | Sig. |
| Pair 1 | *Pre-test* & *Post-test* | 64 | .476 | .000 |

|  |
| --- |
| **Paired Samples Test** |
|  | Paired Differences | t | df | Sig. (2-tailed) |
| Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |
| Lower | Upper |
| Pair 1 | *Pre-test* - *Post-test* | -25.453 | 11.781 | 1.473 | -28.396 | -22.510 | -17.284 | 63 | .000 |

|  |
| --- |
| **Paired Samples Statistics** |
|  | Mean | N | Std. Deviation | Std. Error Mean |
| Pair 1 | *pre-test* menganalisis argumen | 6.00 | 64 | 2.204 | .275 |
| *post-test* menganalisis argumen | 9.61 | 64 | 2.216 | .277 |
| Pair 2 | *pre-test* bertanya dan menjawab pertanyaan | 3.89 | 64 | 2.183 | .273 |
| *post-test* bertanya dan menjawab pertanyaan | 5.72 | 64 | 1.485 | .186 |
| Pair 3 | *pre-test* menginduksi dan mempertimbangkan hasil induksi | 9.70 | 64 | 4.527 | .566 |
| *post-test* menginduksi dan mempertimbangkan hasil induksi | 16.47 | 64 | 3.936 | .492 |
| Pair 4 | *pre-test* membuat dan menentukan hasil pertimbangan | 6.00 | 64 | 3.928 | .491 |
| *post-test* membuat dan menentukan hasil pertimbangan | 10.73 | 64 | 3.287 | .411 |
| Pair 5 | *pre-test* menentukan suatu tindakan | 3.94 | 64 | 3.620 | .453 |
| *post-test* menentukan suatu tindakan | 11.61 | 64 | 5.970 | .746 |

|  |
| --- |
| **Paired Samples Correlations** |
|  | N | Correlation | Sig. |
| Pair 1 | *pre-test* menganalisis argumen & *post-test* menganalisis argumen | 64 | .234 | .063 |
| Pair 2 | *pre-test* bertanya dan menjawab pertanyaan & *post-test* bertanya dan menjawab pertanyaan | 64 | .211 | .095 |
| Pair 3 | *pre-test* menginduksi dan mempertimbangkan hasil induksi & *post-test* menginduksi dan mempertimbangkan hasil induksi | 64 | .398 | .001 |
| Pair 4 | *pre-test* membuat dan menentukan hasil pertimbangan & *post-test* membuat dan menentukan hasil pertimbangan | 64 | .354 | .004 |
| Pair 5 | *pre-test* menentukan suatu tindakan & *post-test* menentukan suatu tindakan | 64 | .445 | .000 |

|  |
| --- |
| **Paired Samples Test** |
|  | Paired Differences | t | df | Sig. (2-tailed) |
| Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |
| Lower | Upper |
| Pair 1 | *pre-test* menganalisis argumen - *post-test* menganalisis argumen | -3.609 | 2.735 | .342 | -4.293 | -2.926 | -10.558 | 63 | .000 |
| Pair 2 | *pre-test* bertanya dan menjawab pertanyaan - *post-test* bertanya dan menjawab pertanyaan | -1.828 | 2.367 | .296 | -2.420 | -1.237 | -6.177 | 63 | .000 |
| Pair 3 | *pre-test* menginduksi dan mempertimbangkan hasil induksi - *post-test* menginduksi dan mempertimbangkan hasil induksi | -6.766 | 4.669 | .584 | -7.932 | -5.599 | -11.592 | 63 | .000 |
| Pair 4 | *pre-test* membuat dan menentukan hasil pertimbangan - *post-test* membuat dan menentukan hasil pertimbangan | -4.734 | 4.134 | .517 | -5.767 | -3.702 | -9.163 | 63 | .000 |
| Pair 5 | *pre-test* menentukan suatu tindakan - *post-test* menentukan suatu tindakan | -7.672 | 5.434 | .679 | -9.029 | -6.315 | -11.295 | 63 | .000 |

*Lampiran 19. Uji Independent Sample T-Test*

|  |
| --- |
| **Group Statistics** |
|  | Kelas | N | Mean | Std. Deviation | Std. Error Mean |
| *Pre-test* | Kelas eksperimen 1 | 33 | 8.9697 | 3.29284 | .57321 |
| Kelas eksperimen 2 | 31 | 10.7742 | 3.19071 | .57307 |

|  |
| --- |
| **Independent Samples Test** |
|  | Levene's Test for Equality of Variances | t-test for Equality of Means |
| F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
| Lower | Upper |
| *Pre-test* | Equal variances assumed | .186 | .667 | -2.224 | 62 | .030 | -1.80450 | .81135 | -3.42637 | -.18263 |
| Equal variances not assumed |  |  | -2.226 | 61.936 | .030 | -1.80450 | .81054 | -3.42478 | -.18421 |

|  |
| --- |
| **Group Statistics** |
|  | Kelas | N | Mean | Std. Deviation | Std. Error Mean |
| *Post-test* | Kelas eksperimen 1 | 33 | 17.1212 | 3.14998 | .54834 |
| Kelas eksperimen 2 | 31 | 18.9355 | 4.48654 | .80581 |

|  |
| --- |
| **Independent Samples Test** |
|  | Levene's Test for Equality of Variances | t-test for Equality of Means |
| F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
| Lower | Upper |
| *Post-test* | Equal variances assumed | 2.216 | .142 | -1.882 | 62 | .065 | -1.81427 | .96422 | -3.74172 | .11318 |
| Equal variances not assumed |  |  | -1.861 | 53.468 | .068 | -1.81427 | .97468 | -3.76883 | .14029 |