

**KEMAMPUAN PEMAHAMAN KONSEP MATEMATIS
SISWA PADA MATERI BILANGAN BERPANGKAT**

SKRIPSI

Diajukan Untuk Memenuhi Salah Satu Syarat Dalam Menempuh Gelar Sarjana
(S-1) Pada Program Studi Pendidikan Matematika FKIP-Unsika



Oleh:

Halimatussadiyah Ummu Nabillah

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link;

however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

HALAMAN PENGESAHAN

KEMAMPUAN PEMAHAMAN KONSEP MATEMATIS SISWA PADA MATERI
BILANGAN BERPANGKAT

SKRIPSI

Diajukan Untuk Memenuhi Salah Satu Syarat Dalam Menempuh Gelar Sarjana
Pendidikan Pada Program Studi Pendidikan Matematika FKIP-Unsika

Oleh
Halimatussadiyah Ummu Nabillah
1810631050163

Pembimbing I

Disetujui,

Pembimbing II

Attin Warmi, M.Pd.
NIDN. 0028068008

Dr. Kiki Nia Sania Effendi, S.Pd.,
M.Pd.
NIDN. 009118801

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

NIP. 195902281984031004

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

PERNYATAAN

Saya yang bertanda tangan dibawah ini:

Nama : Halimatussadiyah Ummu Nabillah
NPM : 1810631050163
Program Studi : Pendidikan Matematika

Menyatakan dengan sesungguhnya bahwa skripsi penelitian yang berjudul :

Kemampuan Pemahaman Konsep Matematis Siswa Pada Materi
Bilangan Berpangkat

Adalah hasil karya sendiri dan bukan jiplakan hasil karya orang lain.

Demikian pernyataan ini saya buat dengan sebenar-benarnya. Jika dikemudian hari terbukti bahwa skripsi saya merupakan hasil jiplakan maka saya bersedia untuk menerima sanksi yang diberikan.

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

PERSEMBAHAN

Penyelesaian skripsi ini tidak lepas dari keterlihatan dukungan, doa serta bantuan baik moril maupun materil berbagai pihak, oleh karenanya penulis mengucapkan terimakasih yang sebesar-besarnya kepada pihak-pihak yang turut membantu penyelesaian skripsi ini. Skripsi ini saya persembahkan kepada :

- 1. Yang Utama dari Segalanya, Allah Subhanahu wa Ta’ala. Berkat nikmat, hidayah, serta kesehatan yang melimpah kepadaku sehingga dengan ilmu pengetahuan yang telah Engkau anugerahkan kepadaku dan atas izin-Mu aku dapat menyelesaikan skripsi ini.
- 2. Kedua orang tua dan keluarga atas kasih sayang, doa, dukungan dan motivasinya.
- 3. Ibu Attin Warmi, M.Pd. dan Ibu Dr. Kiki Nia Sania Effendi, S.Pd., M.Pd. selaku dosen pembimbing, Terima kasih atas kesabaran, waktu, ilmu, pengarahan dan motivasi yang telah diberikan selama penulisan dan penyusunan skripsi ini. Penulis mohon maaf atas segala perbuatan maupun ucapan yang kurang berkenan selama proses bimbingan.
- 4. Kepada Sahabat tercinta (Mutiara, Putri, Ila, Inge) terima kasih atas support dan doanya.
- 5. Teman-teman seangkatan dan seperjuangan di Universitas Singaperbangsa yang tidak dapat di sebutkan satu persatu terima kasih atas support, semangat, doa

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

RIWAYAT HIDUP

Nama Lengkap : Halimatussadiyah Ummu Nabillah
NPM : 1810631050163
Tempat, tanggal lahir : Karawang, 06 Agustus 2000
Alamat Rumah : Kota Karawang, Dusun Sukamulya 1 RT 04/02 Desa
Pinayungan Kecamatan Teluk Jambe Timur
Alamat Email : halimatussadiyahun@gmail.com
No Telepon/HP : 089503350486
Jenis Kelamin : Perempuan

Riwayat Pendidikan

- 1. SDN Pinayungan 1
- 2. SMPN 1 Teluk Jambe Timur
- 3. SMAN 1 Teluk Jambe Timur
- 4. Universitas Singaperbangsa Karawang.

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.



Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

KATA PENGANTAR

Alhamdulillah Rabbal Alamin, Segala Puji dan syukur penulis panjatkan kepada Allah SWT atas Rahmat dan Karunia-Nya yang telah memberikan kesehatan, pengetahuan, keterampilan, dan kesempatan sehingga penulis dapat menyelesaikan Skripsi yang berjudul Kemampuan “Pemahaman Konsep Matematis Siswa Pada Materi Bilangan Berpangkat” Dengan baik dan lancar sesuai dengan waktu yang ditetapkan sebagai syarat akademik dalam program seminar proposal Pendidikan Matematika Universitas Singaperbangsa Karawang.

Skripsi ini disusun sebagai bentuk pengajuan tertulis penulis untuk merealisasikan perancangan alat dan melakukan penelitian skripsi. Skripsi ini diajukan pada tanggal Mei 2022 sebagai syarat melakukan siding skripsi. Skripsi ini digunakan untuk memberikan pemahaman konsep matematika yang didapatkan selama perkuliahan agar berguna bagi diri sendiri, orang lain, bahkan masyarakat sesuai dengan Tri Dharma Perguruan Tinggi yakni:

- 1. Pendidikan dan Pengajaran ;
- 2. Penelitian dan Pengembangan ;
- 3. Pengabdian pada Masyarakat.

Selama proses penyusunan skripsi ini, penulis banyak menerima bantuan, bimbingan, dan pengarahan dari berbagai pihak. Maka pada kesempatan ini penulis mengucapkan

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

- 4. Kepada para staff dan para dosen Program Studi Pendidikan Matematik, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Singaperbangsa Karawang.
- 5. Kepada teman-teman seperjuangan yang selalu memberikan motivasi untuk terus bersemangat mengerjakan proposal penelitian.
- 6. Semua pihak yang tidak dapat penulis sebutkan satu persatu yang telah banyak membantu sehingga skripsi ini dapat diselesaikan.

Akhir kata penulis berharap semoga skripsi ini dapat disetujui dan direalisasikan guna melakukan penelitian untuk menyelesaikan tugas akhir yang akan di susun selanjutnya.

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.



Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

BAB 1

PENDAHULUAN

A. Latar Belakang

Pada era globalisasi ini, pendidikan mempunyai peranan yang sangat penting dalam pembangunan manusia di Indonesia. Pendidikan yang berkualitas dapat meningkatkan kecerdasan suatu bangsa. Hal ini diatur dalam UU No. 20 Tahun 2013 tentang Sistem Pendidikan Nasional Republik Indonesia pada bab II Pasal 3, yaitu pendidikan nasional bertujuan untuk berkembangnya potensi peserta didik agar menjadi manusia yang beriman dan bertaqwa kepada Tuhan Yang Maha Esa, berakhlak mulia, sehat, beriman, cakap, kreatif, mandiri dan menjadi warga negara yang demokratis serta bertanggung jawab. Oleh karena itu, pendidikan perlu dikembangkan dalam berbagai ilmu pengetahuan.

Menurut Gurol (Assegaff & Sontani, 2016) menyatakan bahwa cara berpikir siswa dalam pembelajaran melibatkan metakognisi, berpikir kritis, analitis dan kreatif. Salah satu kemampuan berpikir yang dilibatkan yaitu kemampuan berpikir analitis.

Berdasarkan Helmawati (2019) mengungkapkan pentingnya kemampuan berpikir analitis di era revolusi industri 4.0 dikarenakan ketrampilan ini dinilai mampu membantu siswa siap bersaing agar tidak tertinggal oleh kemajuan zaman dengan percepatan perkembangan ilmu pengetahuan dan teknologi sehingga proses

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

memudahkan siswa dalam mempelajari konsep-konsep matematika berikutnya yang lebih kompleks.

Menurut Permendikbud No.59 Tahun 2014, salah satu tujuan pembelajaran matematika pada pendidikan menengah adalah agar peserta didik dapat memahami konsep matematika, merupakan kompetensi dalam menjelaskan keterkaitan antarkonsep dan menggunakan konsep maupun algoritma, secara luwes, akurat, efisien, dan tepat, dalam pemecahan masalah. Belajar matematika tidak berhasil apabila siswa tidak memahami konsep dari awal.

Berdasarkan pengalaman penulis selama mengikuti Kuliah Kerja Nyata di kelas XI SMP Negeri Kota Karawang pada semester ganjil tahun ajaran 2020-2021, ditemui bahwa pemahaman konsep siswa masih rendah. Guru sudah berusaha untuk mencapai tujuan pembelajaran. Namun, pada saat proses pembelajaran berlangsung siswa terlihat lebih sering mengobrol dengan teman sebangku atau teman di sekitar bangkunya di luar materi pelajaran yang sedang dipelajari.

Siswa cenderung pasif dalam pembelajaran dan hanya menerima materi yang diberikan guru tanpa terlihat aktif dalam pembelajaran sehingga dalam mengerjakan latihan banyak kesulitan yang dialami siswa. Tetapi siswa tidak terlihat bertanya kepada guru melainkan lebih cenderung bertanya kepada temannya mengenai ketidakpahaman tersebut. Ini menunjukkan siswa lebih senang berdiskusi dalam kelompok.

Baik atau tidak baiknya pemahaman konsep siswa dapat dilihat dari terpenuhi

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

Rumusan Masalah

Berdasarkan uraian latar belakang dan pembatasan masalah diatas, maka diperoleh rumusan masalah dari penelitian ini, yaitu

Bagaimana kemampuan pemahaman konsep matematis pada materi bilangan berpangkat.

C. Tujuan Penelitian

Berdasarkan perumusan masalah diatas, maka tujuan dari penelitian ini yaitu:

Untuk mendeskripsikan kemampuan pemahaman konsep matematis siswa di SMP kelas IX pada materi Bilangan Berpangkat?

D. Manfaat Penelitian

Manfaat yang diperoleh dari penelitian ini adalah :

1. Manfaat Teoritis

Secara teoritis penelitian ini diharapkan dapat memberikan tambahan wawasan dan pengetahuan bagi peneliti lain dalam pembelajaran matematika khususnya dalam hal kemampuan pemahaman konsep matematis peserta didik.

2. Manfaat Praktis

a. Untuk peserta didik, sebagai pengalaman baru dalam proses belajar dan mampu

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

E. Definisi Istilah

Untuk menghindari perbedaan penafsiran terhadap istilah yang digunakan dalam perumusan masalah pada penelitian ini, maka perlu dikemukakan tentang definisi istilah sebagai berikut :

1. Kemampuan

Kemampuan adalah kesanggupan atau kecakapan seorang individu untuk melakukan beragam tugas dalam suatu pekerjaan.

2. Pemahaman Konsep Matematika

Pemahaman konsep matematis merupakan kemampuan untuk mengerti dan menguasai ide abstrak dan objek dasar yang dipelajari siswa serta mengaitkan notasi dan symbol matematika yang relevan kemudian mengkombinasikannya kedalam rangkaian penalaran yang logis.

3. Kemampuan Pemahaman Konsep Matematika Siswa

Kemampuan Pemahaman konsep matematis siswa merupakan kemampuan menangkap pengertian-pengertian seperti mampu mengungkapkan suatu materi yang disajikan kedalam bentuk yang lebih dipahami, mampu memberikan interpretasi, dan mampu mengaplikasikannya.

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.



Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

BAB II

TINJAUAN PUSTAKA

A. Pemahaman Konsep Matematis pada Bilangan Berpangkat

1. Pengertian Pemahaman

Menurut Sumarno pemahaman diartikan dari kata understanding, Derajat pemahaman ditentukan oleh tingkat keterkaitan suatu gagasan, prosedur atau fakta matematika dipahami secara menyeluruh jika hal-hal tersebut membentuk jaringan dengan keterkaitan yang tinggi. Suherman (dikutip dalam Fajar, 2018) menjelaskan bahwa konsep merupakan ide abstrak yang memungkinkan kita dapat mengelompokkan objek ke dalam contoh dan non contoh. Pemahaman konsep sendiri menurut Rosmawati (2018) adalah sesuatu yang berupa penguasaan sejumlah materi pembelajaran, dimana siswa tidak sekedar mengenal dan mengetahui, tetapi mampu mengungkapkan kembali konsep dalam bentuk yang lebih mudah dimenerti serta mampu mengaplikasikannya.

Menurut Bloom (dkutip dalam Afni, 2017), pemahaman matematika dibagi menjadi tiga indikator, yaitu:

- a. Mengubah (*translation*),yaitu kemampuan dalam merubah suatu objek/ kalimat dalam bentuk simbol dan sebaliknya. Mengubah dari konsepsi abstrak menjadi suatu model,

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

dapat dipahami bahwa kemampuan pemahaman konsep matematika menginginkan siswa mampu memanfaatkan atau mengaplikasikan apa yang telah dipahminya kedalam kegiatan belajar. Jika siswa telah memiliki pemahaman yang baik, maka siswa tersebut siap memberi jawaban yang pasti atas pertanyaan-pertanyaan atas masalah-masalah dalam belajar.

2. Indikator Pemahaman Konsep

Salah satu kemampuan dalam matematika yang penting dimiliki oleh siswa adalah pemahaman konsep. Untuk mengukur kemampuan pemahaman konsep diperlukan alat ukur (indicator), hal ini sangat penting dan dapat dijadikan pedoman pengukuran yang tepat. Indikator yang tepat dan sesuai adalah indicator dari berbagai sumber yang jelas, diantaranya yaitu:

Indikator pemahaman matematis menurut National Curcil of Teacher of Mathematiics (NCTM) yaitu:

- 1. Mendefinisikan konsep secara verbal dan tulisan.
- 2. Mengidentifikasi dan membuat contoh dan bukan contoh
- 3. Menggunakan model, diagram dan symbol-simbol untuk mempresentasikan suatu konsep.
- 4. Mengubah suatu bentuk representasi ke bentuk reperentasi lainnya
- 5. Mengenal berbagai makna dan interpretasui konsep
- 6. Mengidentifikasi sifat-sifat suatu konsep dan mengenal syarat yang menentukan suatu konsep.

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

B. Teori Belajar yang Mendukung

1. Teori Belajar Konstruktivisme

Menurut teori belajar konstruktivisme, menyatakan bahwa guru tidak hanya sekedar memberikan pengetahuan kepada siswa tetapi juga harus membangun sendiri pengetahuan dengan memberikan kesempatan siswa untuk menerapkan atau menemukan ide-ide sendiri atau dapat dikatakan bahwa siswa harus menemukan sendiri dan mentransformasikan informasi kompleks, mengecek informasi baru dengan aturan-aturan lama dan merevisi aturan-aturan itu apabila tidak lagi sesuai (Suprihatinngum, 2014).

2. Teori Belajar Bruner

Menurut teori belajar Bruner (Suprihatiningrum, 2013) menyatakan bahwa manusia harus aktif dalam mencari pengetahuan mereka sendiri agar apa yang dicarinya lebih bermakna, termasuk memecahkan masalah melalui pengetahuan yang dimilikinya sehingga pengetahuan yang digunakannya benar-benar bermakna.

Keterkaitan antara teori belajar bruner dan strategi pembelajaran konstruktivisme yaitu bagaimana langkah-langkah pada strategi ini menjadikan pembelajaran matematika yang aktif dimana siswa belajar sendiri dengan mengkontruksi pengetahuan sendiri melalui berbagai macam pengalaman.

C. Penelitian Relevan

Penelitian yang dilakukan oleh M. Afrilianto (2012) bertujuan untuk menelaah

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

mampu menentukan pilihan solusi terbaik. Sedangkan siswa dengan kategori rendah mengalami hambatan dan kesalahan yang disebabkan kelemahan dalam ketidakcermatan dalam membaca, ketidak cermatan dalam berpikir, kelemahman dalam analisis masalah.

Pemahaman konsep dalam matematika merupakan suatu hal yang sangat penting dalam pembelajaran. Sedangkan penguasaan siswa terhadap konsep-konsep materi matematika saat ini masih lemah bahkan terdapat konsep materi yang dipahami dengan keliru. Sebagaimana yang dikemukakan oleh Ruseffendi (2006, hlm. 156) bahwa “terdapat banyak siswa yang setelah belajar matematika, tidak mampu memahami bahkan pada bagian yang paling sederhana sekalipun, banyak konsepnya dipahami secara keliru sehingga matematika dianggap sebagai ilmu yang sukar, ruwet, dan sulit”. Oleh karena itu, dibutuhkan peran seorang guru untuk membantu siswa mengembangkan pola pikir dan mengaitkan konsep-konsep dalam matematika. Berdasarkan uraian di atas dapat disimpulkan bahwa pemahaman konsep adalah suatu kemampuan menafsirkan, memperkirakan, mengerti dan memahami untuk konsep-konsep materi setelah dipelajari, serta mampu menangkap dan memahami suatu konsep-konsep materi setelah dipelajari, serta mampu menangkap makna tentang materi yang telah dipelajari itu. Dengan demikian siswa memiliki kemampuan untuk menerjemahkan, menafsirkan, dan menyimpulkan suatu konsep matematika berdasarkan pembentukan pengetahuannya sendiri bukan hasil dari menghafal.

Suatu konsep yang dikuasai siswa semakin baik apabila disertai dengan penganlikasian Effendi (2007 hlm 67) menyatakan bahwa “pemahaman suatu konsep

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Storage Preferences

Third Parties

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.



Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

D. Kerangka Berpikir

Kemampuan pemahaman konsep matematis adalah kemampuan siswa dalam memahami materi-materi pelajaran matematika, sehingga siswa mampu mengungkapkan kembali dalam bentuk lain yang mudah dipahami dan mampu mengaplikasikan konsep tersebut dalam pemecahan masalah. Namun pada kenyataannya, pemahaman siswa terhadap konsep-konsep matematika masih rendah, sedangkan kemampuan pemahaman konsep matematis merupakan kemampuan yang dasar untuk dimiliki siswa sebelum ketahap kemampuan yang lebih tinggi lagi. Kesulitan-kesulitan yang dihadapi siswa saat menemukan soal-soal yang sulit atau jarang mereka temui terjadi karena pemahaman terhadap konsep yang masih

kurang, sehingga mereka mampu mengaplikasikan konsep tersebut dalam pemecahan masalah. Menyadari pentingnya suatu pemahaman konsep dasar dalam pembelajaran matematika, sudah sepantasnya kemampuan pemahaman konsep matematika dianalisis. Agar siswa lebih memahami konsep dengan baik dan benar, para guru matematika harus berusaha untuk mewujudkan keabstrakan konsep menjadi lebih konkret.

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Storage Preferences

Third Parties

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

BAB III

METODOLOGI PENELITIAN

A. Pendekatan dan Metode Penelitian

Pendekatan ini menggunakan pendekatan kualitatif. Menurut Bogdan dan Taylor menyatakan bahwa penelitian kualitatif merupakan metodologi penelitian dimana prosedur penelitian menghasilkan data deskriptif atau kata-kata tertulis atau lisan orang-orang dan perilaku yang diamati (Moleong, 2014). Adapun metode penelitian menggunakan deskriptif kualitatif, yaitu peneliti mendeskripsikan dan menganalisis kemampuan pemahaman konsep matematis siswa SMP pada materi Bilangan Berpangkat.

Pengambilan data dalam penelitian ini dilakukan dengan tes diagnostik berupa soal uraian yang mencakup indikator kemampuan pemahaman konsep (membedakan, mengorganisir, dan mengatribusi), wawancara, dan dokumentasi. Penelitian ini difokuskan pada kegiatan menganalisis cara siswa dalam memahami konsep terhadap bilangan berpangkat. Adapun metode penelitian yang dilakukan meliputi: (1) jenis dan pendekatan penelitian, (2) tempat dan pelaksanaan penelitian, (3) prosedur penelitian, (4) subjek penelitian, (5) teknik pengumpulan data (6) instrumen penelitian, dan (7) teknik analisis data.

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link;

however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

B. Subjek Penelitian

Pemilihan subjek penelitian berdasarkan teknik pengambilan purposive sampling. Menurut Arikunto (2014), purposive sampling merupakan cara pengambilan subjek atau sampel berdasarkan adanya tujuan tertentu. Pertimbangan pada penelitian ini adalah siswa berkemampuan tinggi (pandai), siswa berkemampuan sedang dan siswa berkemampuan rendah (kurang pandai). Banyaknya subjek penelitian berdasarkan Maolani & Cahyana (2016) yang menyatakan bahwa subjek dipilih sekitar 10% - 20% dari siswa yang ada. Dengan demikian, subjek pada penelitian ini sebanyak 31 siswa. Dengan diawali memberikan soal tes kemampuan pemahaman konsep, kemudian dipilih 6 jawaban siswa sesuai dengan kategori kemampuan untuk diwawancarai terkait hasil pengerjaannya.

C. Instrumen dan Teknik Pengumpulan Data Penelitian.

1. Instrumen Penelitian

Lestari dan Yudhanegara (2015) mengungkapkan bahwa instrumen penelitian merupakan suatu alat yang digunakan untuk mengumpulkan data dalam suatu penelitian. Instrumen dalam penelitian ini adalah peneliti. Menurut moleong (2014) mengemukakan bahwa dalam penelitian kualitatif, peneliti merupakan perencana, pelaksanaan pengumpulan data, analisis, penafsir data, dan akhirnya memberi kesimpulan hasil penelitiannya. Instrumen pendukung lainnya yaitu tes kemampuan

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Storage Preferences

Third Parties

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

a. Metode Observasi

Observasi merupakan proses pengamatan dan pencatatan secara sistematis mengenai gejala-gejala yang diteliti. Pada penelitian ini observasi dilakukan saat pembelajaran berlangsung. Observasi ini untuk mengamati aktivitas guru dan siswa menggunakan model pembelajaran Kooperatif.

b. Metode Tes

Tes adalah serangkaian yang digunakan untuk mengukur keterampilan, pengetahuan, intelegensi, kemampuan atau bakat yang dimiliki individu/kelompok (Riduwan 2006). Tes yang digunakan dalam penelitian ini ada 2 tes yaitu tes pada saat mengerjakan lembar kerja dan tes pada saat game. untuk memahami konsep matematis siswa secara individu. Alat evaluasi yang baik kualitasnya perlu diperhatikan beberapa kriteria yang harus dipenuhi, diantaranya:

1. Uji Validitas

Validitas merupakan suatu ukuran yang menunjukkan tingkat kevalidan atau kesahihan suatu instrumen. Validitas instrumen yang dianalisis pada penelitian ini merupakan validitas empiris, yaitu validitas yang ditinjau dengan adanya kriteria tertentu (Arikunto, 2014).

Dalam menentukan tinggi rendahnya koefisien validitas instrumen dilakukan perhitungan Kolerasi Pearson Product Moment adalah sebagai berikut:

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link;

however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

Storage Preferences

Third Parties

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

Kriteria dalam menentukan tingkat derajat validitas instrumen digunakan interpretasi berdasarkan Guiforf (Lestari & Yudhanegara, 2015), yaitu:

Tabel 1.1
Klarifikasi Koefiesen Validitas Instrumen

Koefien Validitas	Interpretasi
$0,90 \leq r_{xy} \leq 1,00$	Sangat Tinggi
$0,70 \leq r_{xy} < 0,90$	Tinggi
$0,40 \leq r_{xy} < 0,70$	Sedang
$0,20 \leq r_{xy} < 0,40$	Rendah
$r_{xy} < 0,20$	Sangat Rendah

Tabel 1.2
Hasil Uji Validitas Instrumen

Butir Soal	Koefisien Kolerasi	Interpretasi
1	0,94	Sangat Tinggi
2	0,82	Tinggi
3	0,81	Tinggi
4	0,85	Tinggi

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link;

however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

k

= Banyak butir soal

$$\Sigma \sigma_b^2$$

= Jumlah varian butir soal

 σ_1^2
$$= \text{Varian total}$$

Adapun kriteria dalam menentukan tingkat reabilitas instrumen digunakan interpretasi berdasarkan Guilford (Lestari & Yudhanegara, 2015), yaitu:

Tabel 1.3

Klasifikasi Koefisien Reliabilitas

Nilai r_{11}	Interpretasi
$r_{11} < 0,20$	Derajat reliabilitas sangat rendah
$0,20 \leq r_{11} < 0,40$	Derajat reliabilitas rendah
$0,40 \leq r_{11} < 0,70$	Derajat reliabilitas sedang
$0,70 \leq r_{11} < 0,90$	Derajat reliabilitas tinggi
$0,90 \leq r_{11} \leq 1,00$	Derajat reliabilitas tinggi

Tabel 1.4

Hasil Uji Reliabilitas Instrumen Tes

Butir Soal	Koefisien Reliabilitas	Interpretasi
------------	------------------------	--------------

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link;

however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close

[this banner to continue with only essential cookies.](#)
[Privacy Policy.](#)

Storage Preferences

Third Parties

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

$$DP = \frac{JB_A - JB_B}{JS A. Skor Maks Soal}$$

DP = Daya Pembeda

I_{B_A} = Jumlah skor siswa dari kelompok atas

I_{B_B} =Jumlah skor siswa dari kelompok bawah

$I5A$ = Jumlah siswa dari kelompok atas

Tabel 1.5
Kategori Daya Pembeda (DP)

Nilai DP	Keterangan
$DP \leq 0,00$	Soal sangat buruk
$0,00 < DP \leq 0,20$	Soal buruk
$0,20 < DP \leq 0,40$	Soal cukup
$0,40 < DP \leq 0,70$	Soal baik

Third Parties

Analytics

Reject Non-Essential

4. Indeks Kesukaran

Menurut Sudijono (Supriadi, Rahim, & Zamsir, 2018) mengemukakan bahwa butir soal tes dapat dikatakan baik apabila butir-butir soal memiliki derajat keukaran cukup artinya tidak terlalu sukar maupun terlalu mudah. Tingkat kesukaran untuk tiap butir soal bentuk uraian dapat dihitung menggunakan rumus sebagai berikut:

$$IK = \frac{X}{SMI}$$

Keterangan :

- IK = Indeks Kesukaran
- X = Rata-rata jumlah skor tiap butir soal
- SMI = Skor Maksimum Ideal

Adapun kriteria interpretasi indeks kesukaran adalah sebagai berikut:

Tabel 1.7

Klasifikasi Indeks Kesukaran

Indeks Kesukaran	Kriteria
$IK = 0,00$	Soal terlalu sukar
$0,00 < IK \leq 0,30$	Soal Sukar
$0,30 < IK \leq 0,70$	Soal Sedang
$0,70 < IK \leq 1,00$	Soal mudah

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

5. Metode Wawancara

Wawancara dilakukan untuk memperoleh informasi/data pendukung yang tidak dapat diperoleh melalui tes tulus. Wawancara ini dilakukan pada peserta didik yang memiliki skor pemahaman konsep tinggi dan skor pemahaman konsep rendah. Setiap peserta didik diwawancarai diberi pertanyaan yang sama kemudian peneliti mencatat atau merekamnya. Hasil wawancara digunakan sebagai data tambahan untuk melengkapi data tes pemahaman konsep peserta didik. Wawancara pada penelitian ini menggunakan wawancara terbuka. Wawancara terbuka merupakan suatu jenis wawancara yang para subyeknya tahu bahwa mereka sedang diwawancarai dan mengetahui tujuan wawancara dilakukan (Moleong, 2014: 189). Wawancara ini setiap responden diberi pertanyaan yang sama dan peneliti mencatat atau merekamnya. Pada saat wawancara dilakukan, peneliti mengambil data dibantu dengan menggunakan alat yaitu:

a. Pedoman Wawancara

Sebelum wawancara dilakukan peneliti menyiapkan pedoman wawancara pemahaman konsep terlebih dahulu.

b. Alat Perekam Suara

Pada saat wawancara dilakukan, peneliti menyiapkan alat perekam suara agar

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

Tes tertulis diberikan kepada siswa berbentuk soal uraian. Setelah tes dilaksanakan langkah selanjutnya memeriksa hasil tes untuk mengkategorikan kemampuan berpikir analitis dan dugaan kesulitan siswa dalam menyelesaikan soal bilangan berpangkat.

b. Wawancara

Wawancara terdiri dari dua tahap, yaitu:

1) Penentuan Subjek Wawancara

Subjek wawancara ditentukan berdasarkan pengkategorian kemampuan berpikir analitis. Wawancara tidak dilakukan kepada semua siswa yang mengikuti tes tertulis tetapi beberapa subjek dipilih berdasarkan kategori kemampuan yaitu tinggi, sedang, dan rendah.

2) Pelaksanaan wawancara

Wawancara dilakukan untuk memastikan kesulitan menyelesaikan permasalahan matematika dan mengetahui penyebab kesulitan dalam mengerjakan soal bilangan berpangkat.

3. Tahap Akhir

Tahapan Akhir dalam penelitian ini yaitu:

a. Validasi data

Validasi data dilakukan dengan menggunakan teknik triangulasi, yaitu membandingkan data tes dan wawancara.

b. Analisis data

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

Ketepatan dan keakuratan data yang terkumpul sangat diperlukan, namun tidak dapat pula dipungkiri bahwa sumber informasi yang berbeda akan memberikan informasi yang berbeda pula. Pekerjaan menganalisis data memerlukan usaha pemutasan perhatian dan pengerahan tenaga fisik dan pikiran sendiri. Selain menganalisis data, peneliti juga perlu mendalami kepustakaan guna mengonfirmasi teori.

Data penelitian kualitatif, data diperoleh dari berbagai sumber, dengan menggunakan teknik pengumpulan data yang bermacam-macam (triangulasi) dan dilakukan secara terus menerus tersebut mengakibatkan variasi data tinggi sekali

Teknik analisis data yang digunakan oleh penelitian menggunakan model Miles and Huberman. Menurut Miles and Huberman dalam buku Sugiyono (2018:246) analisis data dalam penelitian kualitatif, dilakukan pada saat pengumpulan data berlangsung, dan setelah selesai pengumpulan data dalam periode tertentu.

1. Reduksi Data

Menurut Sugiyono (2018:247-249) Reduksi data adalah merangkum, memilih hal-hal yang pokok, memfokuskan pada hal-hal yang penting sesuai dengan topik penelitian, mencari tema dan polanya, pada akhirnya memberikan gambaran yang lebih jelas dan mempermudah untuk melakukan pengumpulan data selanjutnya. Dalam reduksi data akan dipandu oleh tujuan yang akan dicapai dan telah ditentukan

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

3. Penarikan Kesimpulan

Langkah terakhir dalam menganilis penelitian kualitatif adalah penarikan kesimpulan. Menurut Sugiyono (2018:252-353) kesimpulan dalam penelitian kualitatif dapat menjawab rumusan masalah yang dirumuskan sejak awal, tetapi mungkin juga tidak, karena seperti telah dikemukakan bahwa masalah dan perumusan masalah dalam penelitian kualitatif masih bersifat sementara dan akan berkembang setelah penelitian berada dilapangan.

Kesimpulan dalam penelitian kualitatif merupakan temuan baru yang sebelumnya pernah ada. Temuan dapat berupa deskripsi atau gambaran suatu objek yang sebelumnya masih belum jelas sehingga setelah diteliti menjadi jelas.

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

SOAL TES BILANGAN BERPANGKAT

NO	SOAL
1.	Nyatakan bilangan-bilangan berikut dalam bentuk bilangan berpangkat a. $\frac{1}{16} =$ b. 0,00034 $\frac{1}{p^5}, p \neq 0$ c.
2.	Jika a sebarang bilangan tidak nol dan n bilangan bulat, nyatakan $\frac{1}{a^n}$ dalam bentuk pangkat.
3.	Bagaimana jika a = 0 pada a^0 ?
4.	Lengkapilah a. $2^3 =$ b. $2^2 =$

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

LEMBAR WAWANCARA SISWA

Nama :
NIS :

- 1. Ketika mengerjakan soal bilangan berpangkat, apakah anda merasa kesulitan?
- 2. Kesulitan apa yang anda hadapi dikelas dalam pembelajaran matematika pada materi bilangan berpangkat?
- 3. Apakah anda pahami sifat-sifat yang berlaku pada bilangan berpangkat?
- 4. Biasanya syarat dan rumus yang berlaku pada konsep matematika selalu dihafal atau berusaha dipahami?
- 5. Bagaimana perasaan anda ketika mengikuti pembelajaran matematika dikelas?
- 6. Menurut anda, materi bilangan berpangkat ini sulit atau tidak? Jika sulit, bagaimana yang menurut anda sulit?
- 7. Apakah anda menyukai pelajaran matematika materi bilangan berpangkat?
- 8. Apakah anda mempelajari matematika diluar jam pelajaran?
- 9. Seberapa sering anda meluangkan waktu untuk belajar?

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

Daftar Pustaka

Diana, P., Marethi, I., & Pamungkas, A. S. (2020). Kemampuan Pemahaman Konsep Matematis Siswa: Ditinjau dari Kategori Kecemasan Matematik. SJME (Supremum Journal of Mathematics Education), 4(1), 24. <https://doi.org/10.35706/sjme.v4i1.2033>

Febriani, P., Widada, W., & Herawaty, D. (2019). Pengaruh Pembelajaran Matematika Realistik Berbasis Etnomatematika Terhadap Kemampuan Pemahaman Konsep Matematika Siswa SMA Kota Bengkulu. Jurnal Pendidikan Matematika Raflesia, 04(02), 120–135. <https://ejournal.unib.ac.id/index.php/jpmr/article/view/9761/4795>

Kartika, Y. (2018). Analisis kemampuan pemahaman konsep matematis peserta didik kelas vii SMP pada materi bentuk aljabar. Jurnal Pendidikan Tambusai, 2(4), 777–785.

Zulkamain, I., & Djamilah, S. (2016). Penerapan Model Pembelajaran Think Pair and Share terhadap Kemampuan Pemahaman Matematis Siswa Sekolah Menengah Pertama. EDU-MAT: Jurnal Pendidikan Matematika, 3(1). <https://doi.org/10.20527/edumat.v3i1.635>

Kusumawati, N. (2008). Pemahaman Konsep dalam Pembelajaran Matematika. Diakses dari halaman web tanggal 27 Februari 2016 dari: <http://core.ac.uk/download/files/335/11064532.pdf>

Mawaddah Siti, dan Ratih Maryanti. “Kemampuan Pemahaman Konsep Matematis Siswa SMP Dalam Pembelajaran Menggunakan Model Penemuan Terbimbing (Discovery Learning)”. Edu-Mat Jurnal Pendidikan Matematika 4, No. 1, 2016.

M Putri, Padma Mike, et al.eds. “Pemahaman Konsep Matematika Pada

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#)

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.



Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.



Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential

We and our 21 IAB TCF partners store and access information on your device for the following purposes: store and/or access information on a device, advertising and content measurement, audience research, and services development, personalised advertising, and personalised content.

Personal data may be processed to do the following: use precise geolocation data and actively scan device characteristics for identification.

Our third party IAB TCF partners may store and access information on your device such as IP address and device characteristics. Our IAB TCF Partners may process this personal data on the basis of legitimate interest, or with your consent. You may change or withdraw your preferences at any time by clicking on the cookie icon or link; however, as a consequence, you may not see relevant ads or personalized content. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. [Privacy Policy](#).

[Storage Preferences](#)

[Third Parties](#)

Storage

Targeted Advertising

Personalization

Analytics

Save preferences

Accept All

Reject Non-Essential