LESSON PLAN

School : SMP N 1 Petanahan
Subject : Mathematics
Grade/Semester : 7^{th} / I
Subject Matter : Integer
Learning Goal : Students can doing arithmetic operation in integer
Student can find the properties of operation in integer
Students can solve the problems related to arithmetic operation in integer
Duration : 80 minutes
Based Competencies : 3.2 Explaining and doing arithmetic operation in integer and fraction using various properties of operation
4.2 Solving problems related with arithmetic operation in integer and fraction.
Mode : Online

1. Preliminary activity

Main Activity	Mathematical Learning Goal	Conjectured of students' Thinking	Teacher's reaction
Teacher opens the lesson by greeting the students and checking the students' readiness			
Teacher explores the prior knowledge by asking the student about number	Students have the prior knowledge of number and numbers operation	Student know about number and represent the number of object with integer	Teacher motivates the students and asking how about positif and negative numbers
		Students don't know about integer	Teacher recall students ability in daily life case like money
Hook: Teacher and students review prior lessons which are important for the new topic. Integer consist of positive number, zero, and negative numbers. Operation in numbers are addition,	Students recall their understanding to find out the concept of integer and operation of integer	Students know the concept	Teacher asks the student to tell to other what they have known about integer and operation of integer in real life problem

substraction , multiplication and division			
		Students don't know the concept	Teacher gives some questions, so the student would be found the concept of operation in integer

2. Main activity

Going to GeoGebra classroom	Students access and explore activities in the GeoGebra classroom.	Student can do some activities in GeoGebra classroom	Teacher motivates the students and asks the students to share their activities
		Student difficult to do some activities in GeoGebra classroom	Teacher helps students and motivates the students, make longer time to them and check whether there is a technical problem such as internet connection or device problem.
Understanding the problems	1. Student doing the exercise in activity 1 and 2. Teacher tells the student about the problem, Activities 1: student can do addition with positive integer Activities 2: student can do addition with negative number	Students ask the teacher about how to move the slider to change the number	The teacher motivates the student and tell how to change the number by sliding the red point and blue point

		Student can explore and move the slider into the number in the activities and get the right answer	Teacher motivates the student and ask them to share how they can do the activities to others
Doing the problem	Activities 3 : Student can make generalization of addition two positive number and two negative number	Students make a wrong answer	Teacher motivates student and ask student to check the number line and check the answer of activities 1 and 2
		Students get the correct answer	Teacher gives positive feedback and let them share their idea
	Activities 4 and 5: student can do addition negative number with positive number	Students can find the same result of activities 4 and 5	Teacher motivates student and let them share the relation between activities 4 and 5
		Students cannot find the same result of activities 4 and 5	Teacher motivates the student and recall the result in activities 4 and 5

	Activities 6 : Student can make generalization of addition two positive number and two negative number	Students get the point of commutative properties in addition	Teacher give positive feedback and let them share their insight with their answer
		Students do not get the point of commutative properties in addition	Teacher motivates students and asks students to make a correlation between activities 4 and 5
	Activities 7,8,9,10 and 11 : Students can do substraction in integer and find the properties of substraction	Students get the right answer	Teacher gives positive feedback and let them share their idea that the propertis od substraction is not commutative, the sunstraction of number with negative number can make the substraction becoming addition.
		Students get the wrong answer	Teacher motivates the students and recall their result in activities 7 and 8, do they get the same result ? in activities 8,9,10 and 11 they can make other simulation to get

			the point of substraction properties
	Activities 12,13,14,15 and 16 : Students can do multiplication in integer and find the properties of multiplication	Students make a wrong answer and did not find the concept of commutative in multiplication	Teacher motivates student and ask student to check the number line and check the answer of activities 12,13,14, and 15
		Students get the correct answer and find the concept of commutative in multiplication	Teacher gives positive feedback and let them share their idea
	Activities 17,18,19 and 20 : Students can do division in integer and find the properties of division in positive and negative numbers	Students make a wrong answer	Teacher motivates student and ask student to check the number line and check the answer of activities 17,18, Teacher gives feedback of wrong conclusion in activities 19 and 20 and motivates them to recall their understanding
		Students get the correct answer	Teacher gives positive feedback and let them share their idea

3.Closing activity

Making Conclusion	Teacher ask the student to share their insight from all activities of the properties operation in integer	Students get the right conclusion	Teacher gives positive feedback and let them share their idea to others
		Students get the wrong conclusion	Teacher motivates the students to recall their

			understanding about comutative in addition and multiplication.

Mengetahui,
Kepala SMP N 1 Petanahan

Drs. Supriyatin Nur Widayat
NIP. 196812071999031003

Petanahan, 26 Juli 2020
Guru Mapel

Sanni Merdekawati,S.Pd
NIP. -

RUBRIC ASSESMENT

Assesment Technique **:** Student Worksheet
Instrument **:** Essay and Multiple choice
Base Competencies **:** 3.2 Explaining and doing arithmetic operation in integer and fraction using various properties of operation
4.2 Solving problems related with arithmetic operation in integer and fraction.

NO	Assesment aspect	Score	Assessment Rubric
1	Knowing concept of addition in line number	0	Students don't join the activity in GeoGebra classroom
2		1	Students can't do the activity in GeoGebra classroom. Their answer doesnot related to the concept of addition in line number
3		2	Students able to do the activities but get the wrong answer
4		3	Students able to do the activities but can't explain their idea
5		4	Students able to do the activities , answer the task correctly and explain their idea about the concept of addition
6	Generalizing / making conclusion about the concept of addition and properties of commutative	0	Students don't join the activity in GeoGebra classroom
		1	Students can't do the activity in GeoGebra classroom. Their answer doesnot related to the concept of addition in line number
		2	Students able to make summary of activities before
		3	Students able to share their idea about the properties of addition
		4	Students able to share their idea about the commutative properties in addition
7	Knowing concept of substraction in line number	0	Students don't join the activity in GeoGebra classroom
8		1	Students can't do the activity in GeoGebra classroom. Their answer doesnot related to the concept of substraction in line number
9		2	Students able to do the activities but get the wrong answer
		3	Students able to do the activities but can't explain their idea
		4	Students able to do the activities , answer the task correctly and explain their idea about the concept of substraction in line number
10	Generalizing / making conclusion about the concept of substraction in line number	0	Students don't join the activity in GeoGebra classroom
11		1	Students choice the wrong answer

		2	Students able to share their idea about their answer but still make wrong choices
		3	Students can do the activity in GeoGebra classroom. Their answer is right
		4	Students able to share their idea about their choices and get the right answer
12	Knowing concept of multiplication in line number	0	Students don't join the activity in GeoGebra classroom
13		1	Students can't do the activity in GeoGebra classroom. Their answer doesnot related to the concept of multiplication in line number
14		2	Students able to do the activities but get the wrong answer
15		3	Students able to do the activities but can't explain their idea
		4	Students able to do the activities , answer the task correctly and explain their idea about the concept of multiplication
16	Generalizing / making conclusion about the concept of multiplication in line number	0	Students don't join the activity in GeoGebra classroom
		1	Students choice the wrong answer
		2	Students able to share their idea about their answer but still make wrong choices
		3	Students can do the activity in GeoGebra classroom. Their answer is right
		4	Students able to share their idea about their choices and get the right answer
17	Generalizing / making conclusion about the concept of multiplication in line number	0	Students don't join the activity in GeoGebra classroom
18		1	Students choice the wrong answer
19		2	Students able to share their idea about their answer but still make wrong choices
20		3	Students can do the activity in GeoGebra classroom. Their answer is right
		4	Students able to share their idea about their choices and get the right answer

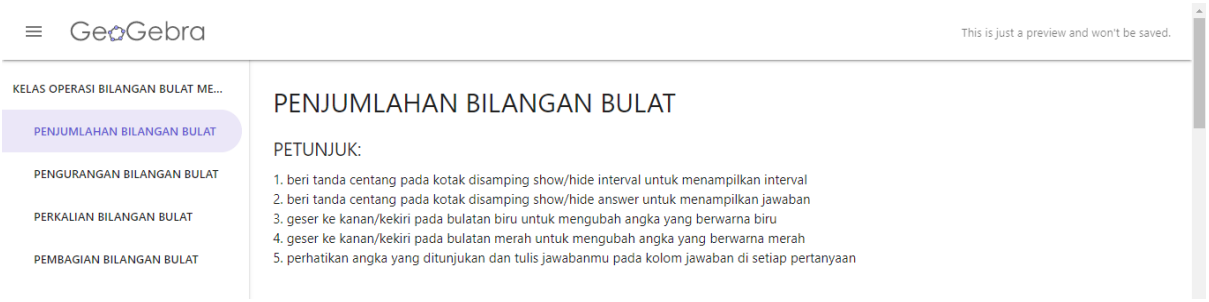
STUDENT'S WORKSHEET
"OPERATION OF INTEGER"

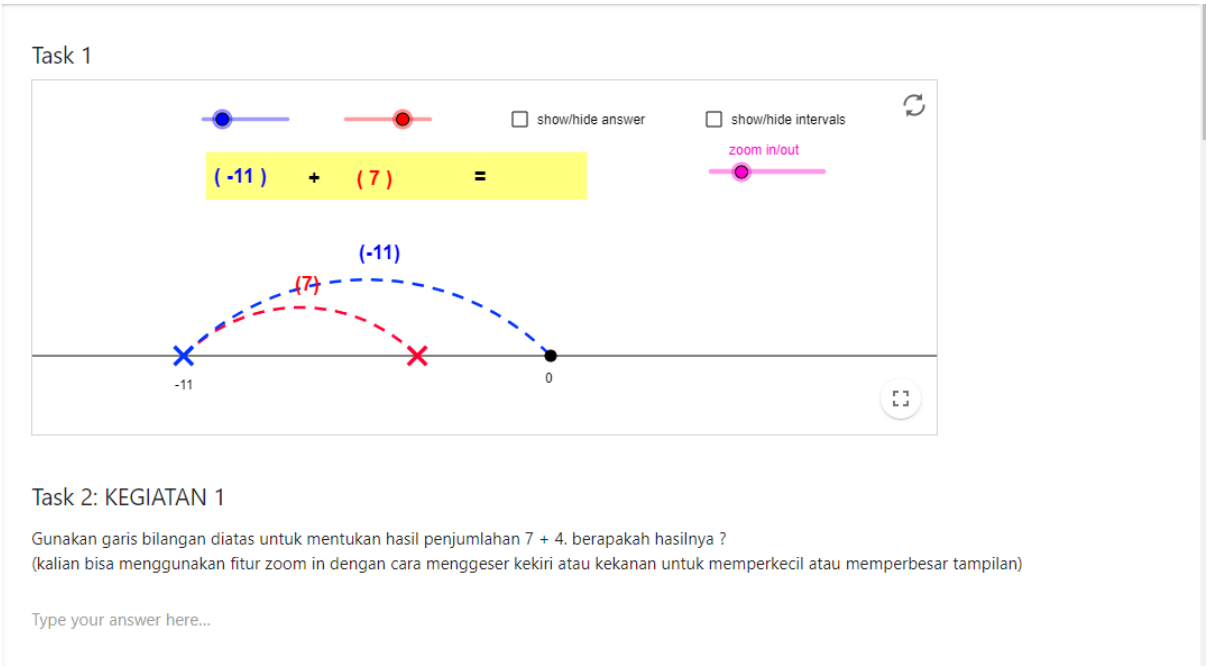
Learning Goal :

- Students can doing arithmetic operation in integer
- Student can find the properties of operation in integer
- Students can solve the problems related to arithmetic operation in integer

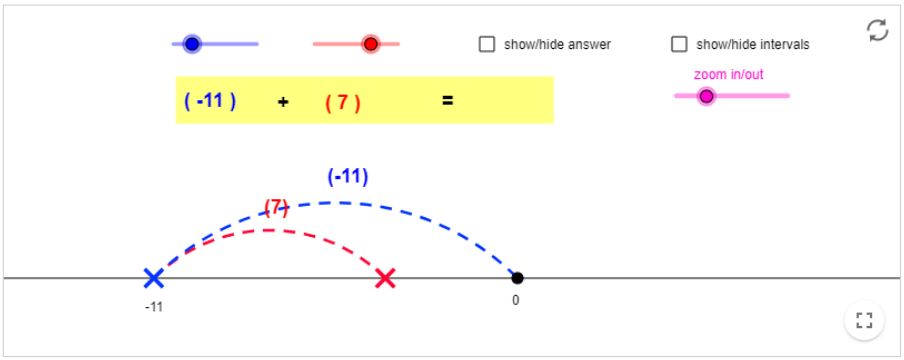
This link to geogebra classroom: https://www.geogebra.org/classroom/tw82hm7z

Screenshot of activities





Task 3



Task 4: KEGIATAN 2

Gunakan garis bilangan diatas untuk mentukan hasil penjumlahan (-7) + (-8). berapakah hasilnya ?

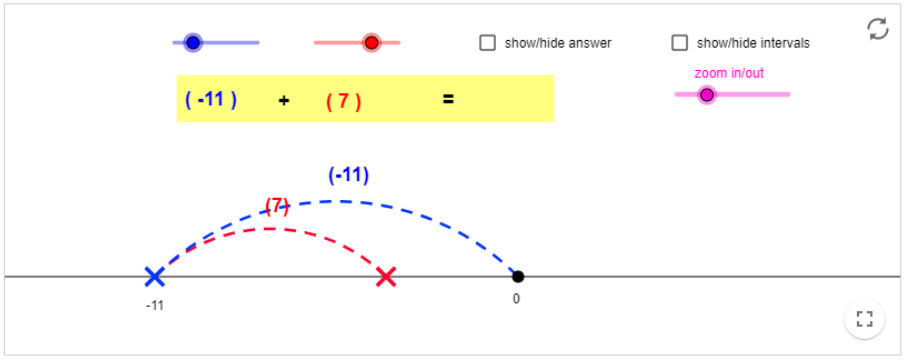
Type your answer here...

Task 5: KEGIATAN 3

Buatlah kesimpulan dari kedua kegiatan diatas, tentang penjumlahan dua bilangan bulat positif dan dua bilangan negatif.

Type your answer here...

Task 6

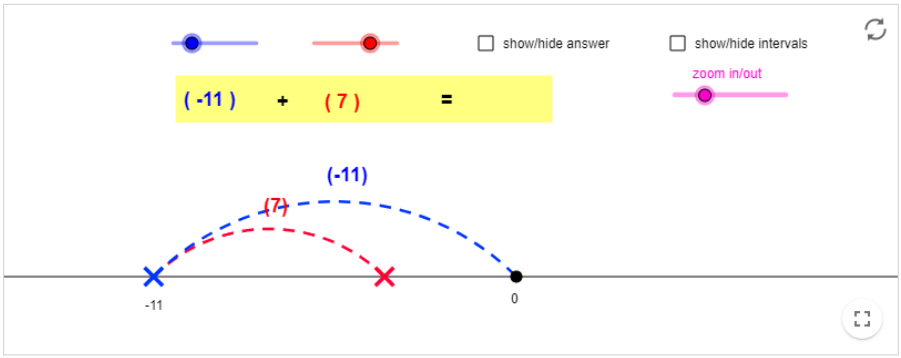


Task 7: KEGIATAN 4

Gunakan garis bilangan diatas untuk mentukan hasil penjumlahan (-14) + 6. berapakah hasilnya ?

Type your answer here...

Task 8



Task 9: KEGIATAN 5

Gunakan garis bilangan diatas untuk mentukan hasil penjumlahan 6 + (-14). berapakah hasilnya ?

Type your answer here...

Task 10: KEGIATAN 6

Pada kegiatan 4 dan 5. apakah kalian menemukan hasil yang sama ? jelaskan sifat apakah itu ?

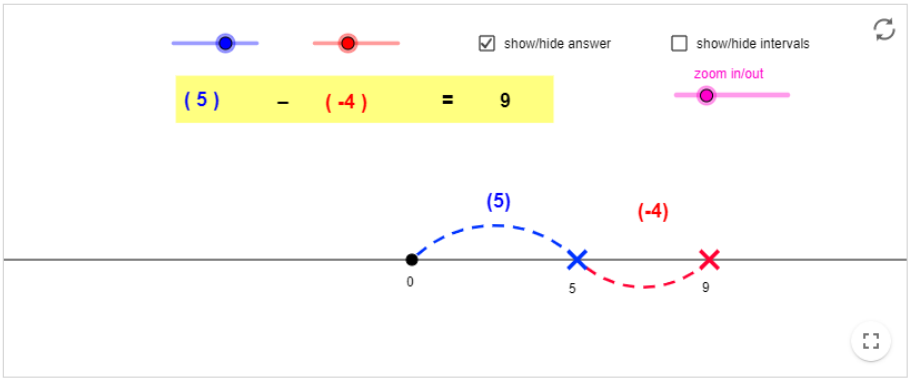
Type your answer here...

PENGURANGAN BILANGAN BULAT

PETUNJUK :

1. beri tanda centang pada kotak disamping show/hide interval untuk menampilkan interval
2. beri tanda centang pada kotak disamping show/hide answer untuk menampilkan jawaban
3. geser ke kanan/kekiri pada bulatan biru untuk mengubah angka yang berwarna biru
4. geser ke kanan/kekiri pada bulatan merah untuk mengubah angka yang berwarna merah
5. perhatikan angka yang ditunjukan dan tulis jawabanmu pada kolom jawaban di setiap pertanyaan

Task 11

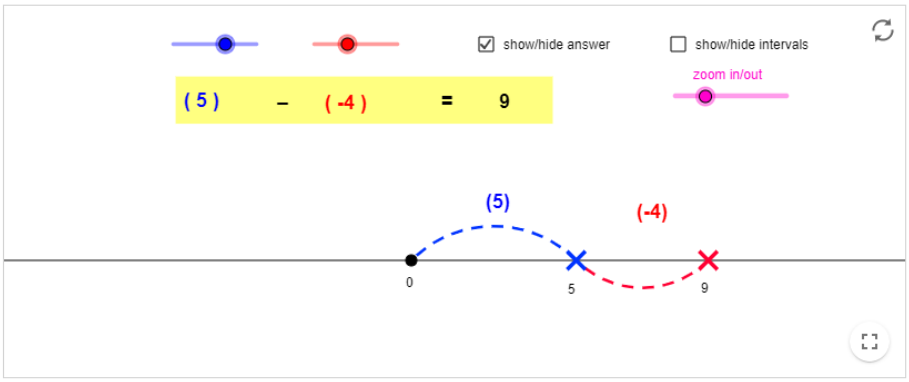


Task 12: KEGIATAN 7

Gunakan garis bilangan diatas untuk mentukan hasil pengurangan 12 - 4. berapakah hasilnya ?
(kalian bisa menggunakan fitur zoom in dengan cara menggeser kekiri atau kekanan untuk memperkecil atau memperbesar tampilan)

Type your answer here...

Task 13

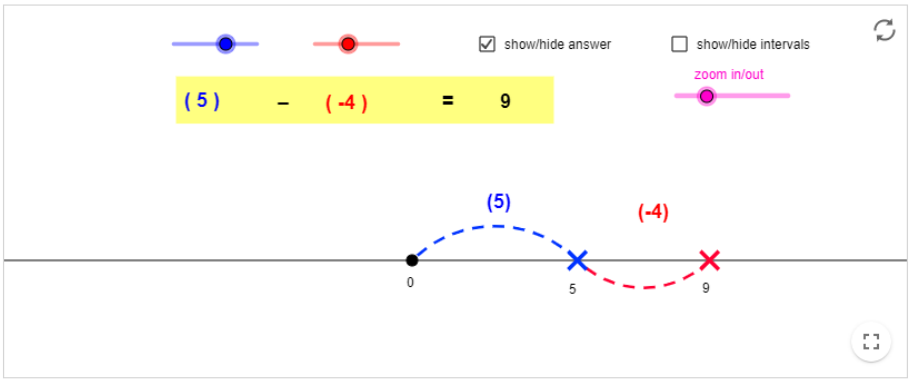


Task 14: KEGIATAN 8

Gunakan garis bilangan diatas untuk mentukan hasil pengurangan 4 - 12. berapakah hasilnya ?
apakah sama antara hasil operasi pengurangan 12 - 4 dengan 4 - 12 ? jelaskan jawabanmu

Type your answer here...

Task 15



Task 16: KEGIATAN 9

Gunakan garis bilangan diatas untuk mentukan hasil pengurangan 15 - (-3). berapakah hasilnya ? Dapatkah kamu menyebutkan sifat pengurangan dengan bilangan negatif ?

Type your answer here...

Task 17: KEGIATAN 10

untuk sembarang bilangan bulat positif a dan b , maka untuk pengurangan
a - (-b) akan sama dengan ?

Check all that apply

- [ ] a - b
- [ ] a + b

Task 18: KEGIATAN 11

untuk sembarang bilangan bulat positif a dan b , maka untuk pengurangan
(-a) - (-b) akan sama dengan ?

Check all that apply

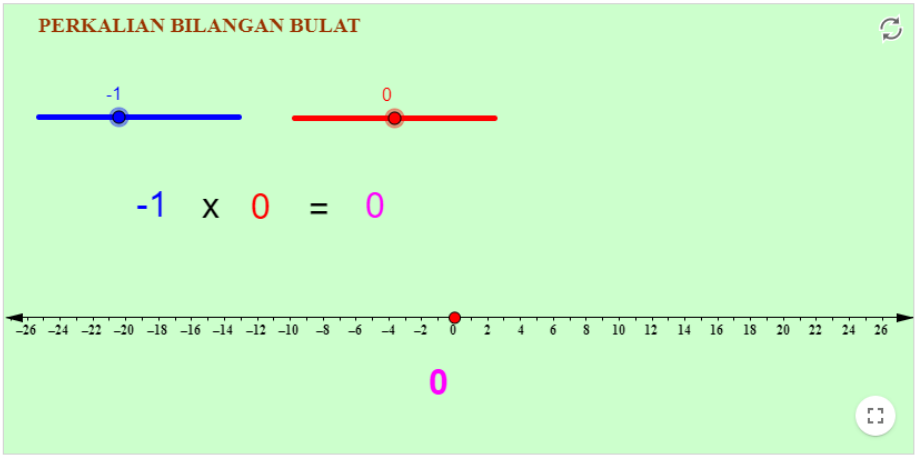
- [ ] (-a) - b
- [ ] (-a) + b

PERKALIAN BILANGAN BULAT

PETUNJUK

1. geser ke kanan/kekiri pada bulatan biru untuk mengubah angka yang berwarna biru
2. geser ke kanan/kekiri pada bulatan merah untuk mengubah angka yang berwarna merah
3. perhatikan angka yang ditunjukan dan pilih jawaban yang paling tepat di setiap pertanyaan pilihan ganda serta tulis jawabanmu pada kolom jawaban di setiap pertanyaan uraian

Task 19



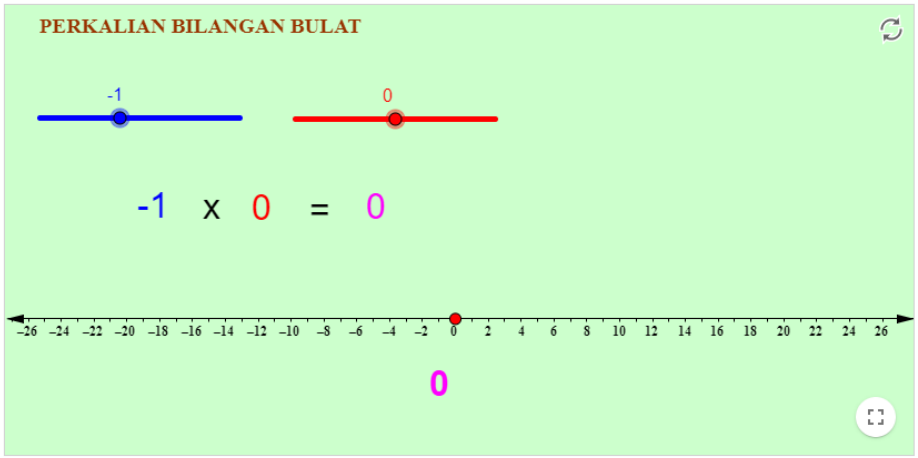
Task 20: KEGIATAN 12

gunakan garis bilangan diatas untuk menunjukan hasil perkalian berikut
4 x 5 =...

Check all that apply

- [ ] 20
- [ ] -20
- [ ] 9
- [ ] 1

Task 21



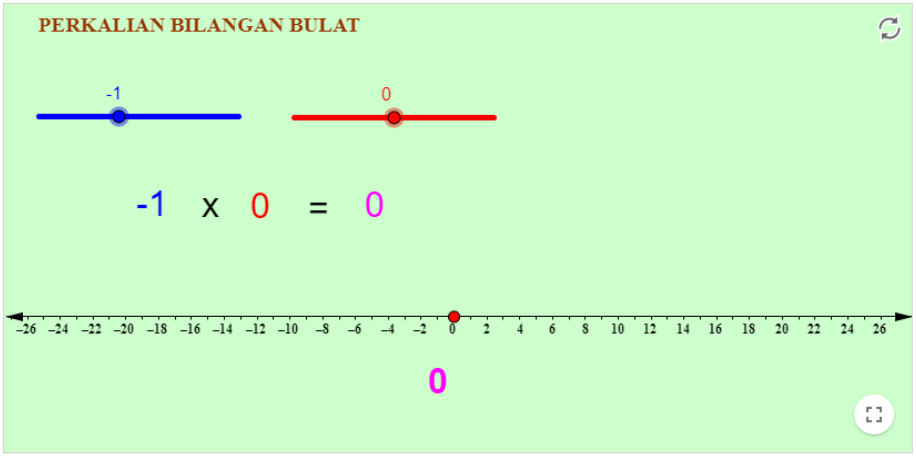
Task 22: KEGIATAN 13

gunakan garis bilangan diatas untuk menunjukan hasil perkalian berikut
(-2) x 5 =...

Check all that apply

- [ ] -10
- [ ] 10
- [ ] 5
- [ ] 3

Task 23



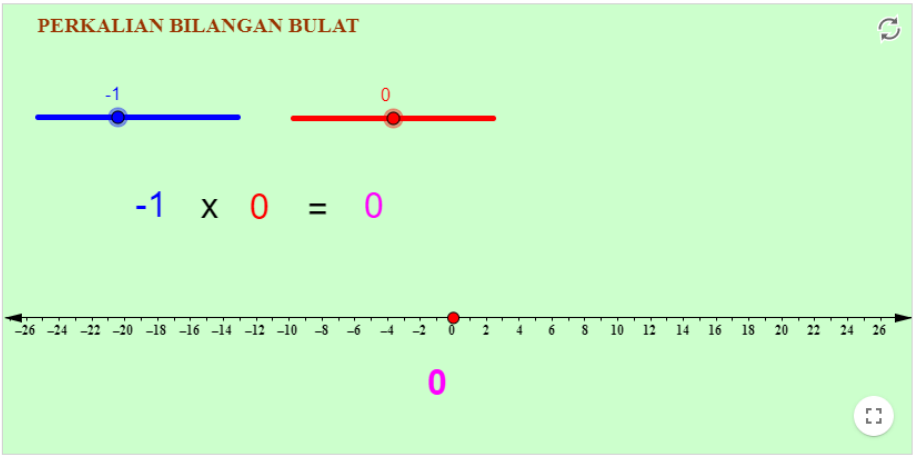
Task 24: KEGIATAN 14

gunakan garis bilangan diatas untuk menunjukan hasil perkalian berikut
5 x (-2) =...

Check all that apply

- [ ] -10
- [ ] 10
- [ ] 5
- [ ] 3

Task 25



Task 26: KEGIATAN 15

gunakan garis bilangan diatas untuk menunjukan hasil perkalian berikut
(-3) x (-4) =...

Check all that apply

- [ ] 12
- [ ] 7
- [ ] -7
- [ ] -12

Task 27: KEGIATAN 16

BUATLAH KESIMPULAN PADA SETIAP PERTANYAAN BERIKUT !
a. perkalian bilangan positif dengan positif menghasilkan bilangan ...

Check all that apply

- [ ] positif
- [ ] negatif

Task 28

b. perkalian bilangan positif dengan negatif menghasilkan bilangan ...

Check all that apply

- [ ] positif
- [ ] negatif

Task 29

c. perkalian bilangan negatif dengan bilangan negatif menghasilkan bilangan ...

Check all that apply

- [ ] positif
- [ ] negatif

Task 30

d. apakah pada kegiatan 13 dan kegiatan 14 menghasilkan hasil yang sama ? Jelaskan sifat apakah itu ?

Type your answer here...

Task 31

e. perkalian bilangan positif / negatif dengan bilangan nol akan menghasilkan bilangan...

Type your answer here...

Task 32

f. perkalian bilangan positif / negatif dengan bilangan satu (1) akan menghasilkan bilangan...

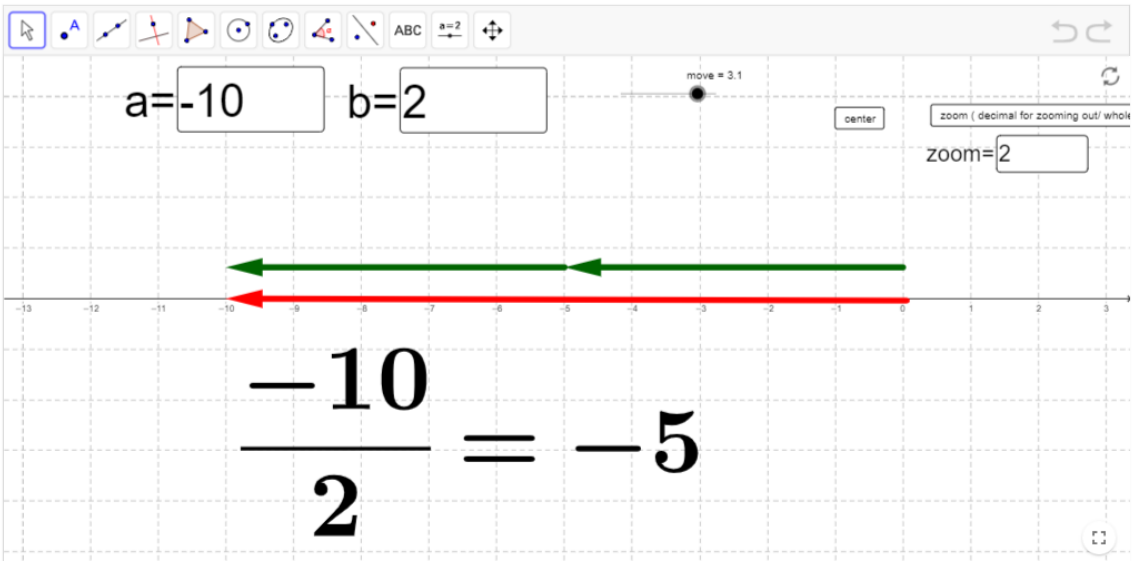
Type your answer here...

PEMBAGIAN BILANGAN BULAT

PETUNJUK

1. Gunakan slider dibawah kata move untuk mengatur tampilan (memperbesar/mengecilkan)
2. isilah angka pada kotak a untuk mengisi angka pada pembilang
3. isilah angka pada kotak b untuk mengisi angka pada penyebut
4. perhatikan garis bilangan yang ditunjukan dan hasil pembagian yang diberikan

Task 33



Task 34: KEGIATAN 17

Dengan mengisi kotak a dan b pada gambar diatas. Tentukan hasil operasi pembagian bilangan bulat berikut.
a. -20 : 5 = ...
b. 5 : (-20) = ...
c. 12 : 4 = ...
d. (-15) : (-3) = ...

Type your answer here...

Task 35: KEGIATAN 18

Untuk sembarang bilangan bulat a dan b. Apakah a : b = b : a?jelaskan jawabanmu

Task 36: KEGIATAN 19

a. pembagian sembarang bilangan bulat positif akan menghasilkan bilangan

Check all that apply

- [ ] positif
- [ ] negatif

Task 37

b. pembagian sembarang bilangan bulat positif dan negatif akan menghasilkan bilangan

Check all that apply

- [ ] positif
- [ ] negatif

Task 38

c. pembagian sembarang bilangan bulat negatif akan menghasilkan bilangan

Check all that apply

- [ ] positif
- [ ] negatif

Task 39: KEGIATAN 20

Dapatkah kamu menyimpulkan konsep atau sifat operasi pembagian pada bilangan bulat ? jelaskan pendapatmu

Type your answer here...