



APRENDER SEMPRE

9º ANO

ENSINO FUNDAMENTAL

MATEMÁTICA

Dear student and caregiver,

To prevent the dissemination of the new coronavirus, and to preserve everyone's health, school activities were paralyzed to reduce the circulation of people. In order not to interrupt your school studies even during the period of suspension of classes, the State Secretary of Education has prepared some materials to support you at this moment.

This material is divided in two parts: one on Portuguese Language and the other one in Mathematics. Here you will find activities to enhance your knowledge. Also, two inserts are included: one with information about COVID-19 and the other one with guidelines and suggestions for you to organize a study routine and continue learning, even without going to school!

When you return to school, you must hand over the activities to your teacher. That way you can have feedback on what you managed to advance and be supported to learn even more!

Good luck with your studies!



Nome da Escola: _____

Nome do Aluno: _____

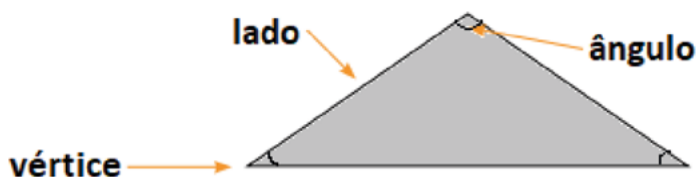
Data: __/__/2020

Ano/Turma 9º Ano EF _____

Sequence 1



Skill 21 - Recognize the similarity between flat figures based on the congruence of the angular measurements and the proportionality between corresponding linear measurements.

1. Observe some of the elements that compose a polygon:



Fonte: Equipe pedagógica

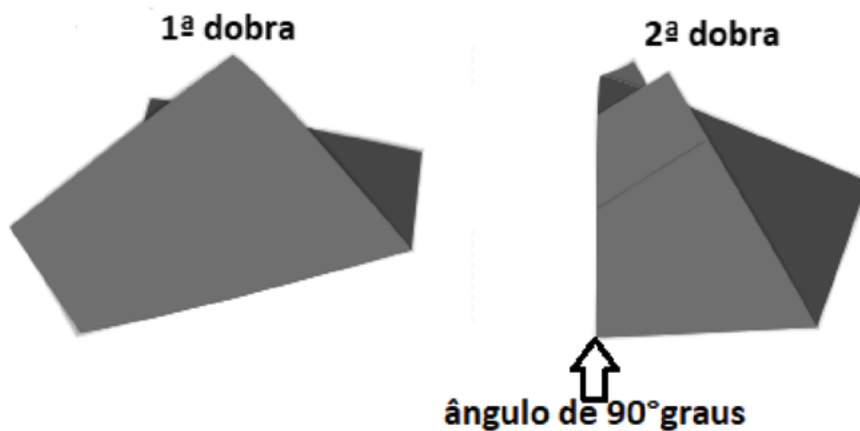
- a. Polygons have lados, vértices and ângulos. Therefore, complete the following table, considering each figure represented.

Figura	Número de Lados	Número de Ângulos	Número de Vértices
			
			

Fonte: Equipe pedagógica

- b. Have you noticed any regularity in the figures shown on the board? If so, which one(s)?

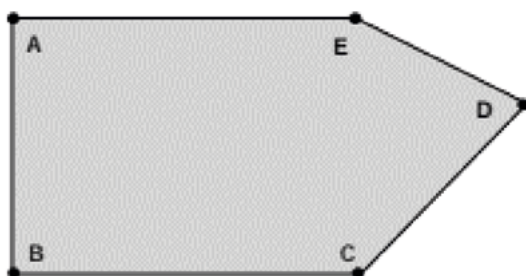
2. Use a sheet of paper and make any dobra. Then make another fold, to overlap the previous fold, as the images show



Fonte: Equipe pedagógica

Answer:

- a. The angle formed by the dobras (folds), as pointed out in the image, is called the angle _____.
- b. Now, use the angle of paper you have made and check which angles in the following figure are straight.



Answer

- c. Look for objects in your house that have 90° angles. Register those objects in the following table.



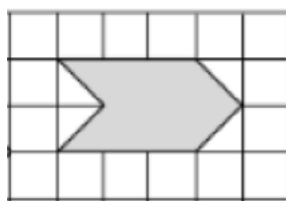
3. Search the words registered in the following chart.

CAÇA PALAVRAS - GEOMETRIA

W	E	K	F	L	D	L	I	O	P	O	J	O	Z	T	L	R	S	H	O
H	O	Y	C	A	Q	D	N	N	E	L	N	L	J	M	J	Q	G	E	G
V	L	V	G	A	N	O	U	O	N	I	C	O	I	E	U	I	G	X	A
V	H	U	M	T	G	Z	Q	G	T	H	C	L	G	A	W	H	S	A	J
R	I	M	U	A	T	P	P	A	A	O	W	O	D	A	N	L	Q	G	D
O	E	H	T	B	K	V	V	E	D	B	N	R	S	B	C	I	F	O	L
M	O	N	H	Z	L	Z	H	N	E	N	I	O	Q	A	J	E	J	N	S
Z	E	X	S	K	C	G	R	E	C	L	U	J	G	H	G	F	D	O	G
P	O	N	O	G	I	L	O	P	A	U	U	S	D	O	K	O	J	O	O
T	W	Y	W	L	M	K	U	T	G	V	O	C	M	C	T	Q	N	N	D
X	Q	E	D	I	S	E	E	M	O	H	L	X	N	B	B	C	O	O	Q
Q	D	X	A	X	A	R	J	M	N	C	U	B	S	K	T	G	O	E	K
I	Z	P	E	J	O	M	T	Y	O	D	G	N	V	N	A	L	U	Y	R
H	E	P	T	A	G	O	N	O	I	T	N	B	Y	C	N	C	O	Z	Y
E	I	U	P	M	C	W	G	A	U	K	A	O	E	S	G	V	V	L	N
Q	R	E	Z	R	N	Z	G	O	G	E	I	D	F	N	Q	Q	K	Q	O
L	L	N	D	F	A	O	L	T	J	I	R	Z	R	G	E	J	H	G	V
T	G	I	W	W	N	J	Y	R	Z	X	T	W	I	Y	K	P	A	Q	E
T	H	R	Q	A	Z	Y	O	N	O	G	A	C	E	D	N	U	C	O	V
T	T	P	L	C	X	L	E	K	H	W	N	T	G	F	C	T	P	K	Y

Decágono	Diagonal	Dodecágono	Eneágono
Heptágono	Hexágono	Octógono	Pentadecágono
Pentágono	Polígono	Undecágono	

Observe the figure drawn on the following grid.



Fonte: Equipe pedagógica

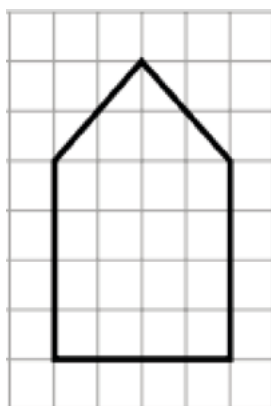
- a. Now, draw the same figure, but with its sides three times bigger than the figure on the grid above.



Answer:

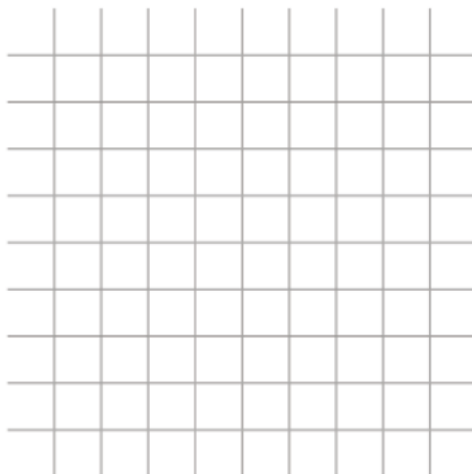
What changed in the new figure?

- b. Observe the figure on the following grid.



Fonte: Equipe pedagógica

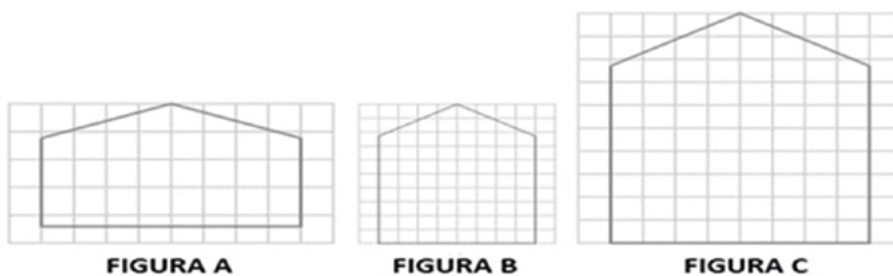
Now draw this figure in the following grid pattern, the dimensions should be half the size of each side of the grid pattern above.



Answer:

What changed in the new figure?

4. Check up in a dictionary to see if the words "parecido" (alike), "semelhante" (similar) and "igual" (equal) have the same meaning. Look at the pictures on the following grid patterns.

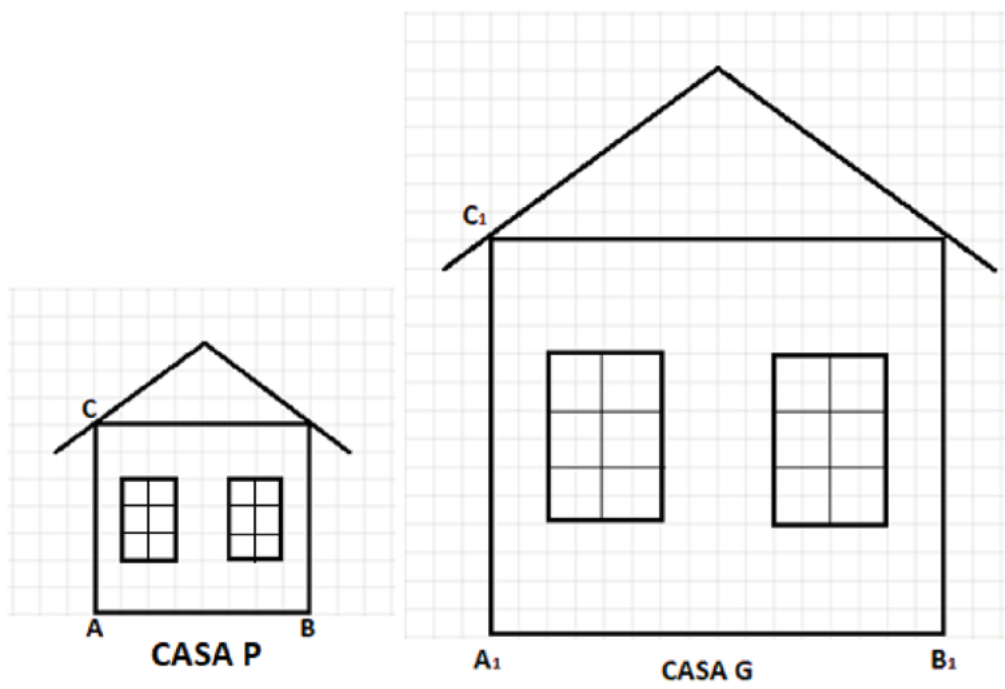


Fonte: Equipe pedagógica

a. Are these figures semelhante or parecido? Justify your answer.

b. Among the three figures, which is the pair of figures semelhantes?

Observe the highlighted \overline{AB} and \overline{AC} segments in the drawing of the House P, and the highlighted $\overline{A_1B_1}$ and $\overline{A_1C_1}$ segments in the drawing of the House G.



Fonte: Equipe pedagógica

Determine the relations: $\frac{\overline{A_1B_1}}{\overline{AB}}$ and $\frac{\overline{A_1C_1}}{\overline{AC}}$. Consider that each square in the grid has a length measurement unit.

$\frac{\overline{A_1B_1}}{\overline{AB}} =$

$\frac{\overline{A_1C_1}}{\overline{AC}} =$

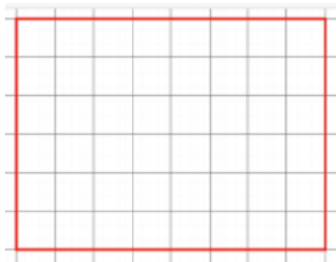
Considering the ratio between two corresponding sides is called similarity ratio or constant proportionality between the linear measures, in the previous question answer by observing the drawings:

c. Are the figures of **House P** and **House G** similar?

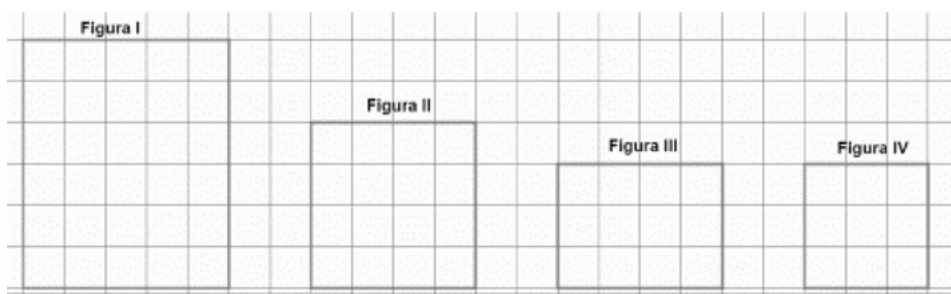
d. If so, what is the similarity ratio between figures of **House P** and **House G**?



5. (24ª Edição – 9º ano – AAP)1 Observe the following figure.

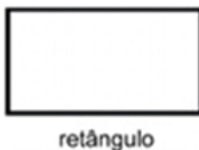


From the following reduced figures, which one is similar to the above figure?



- a. Figure I.
- b. Figure II.
- c. Figure III.
- d. Figure IV.

6. (SAEB) Ao escolher lajotas para o piso de sua varanda, Lúcia falou ao vendedor que precisava de lajotas que tivessem os quatro lados com a mesma medida.



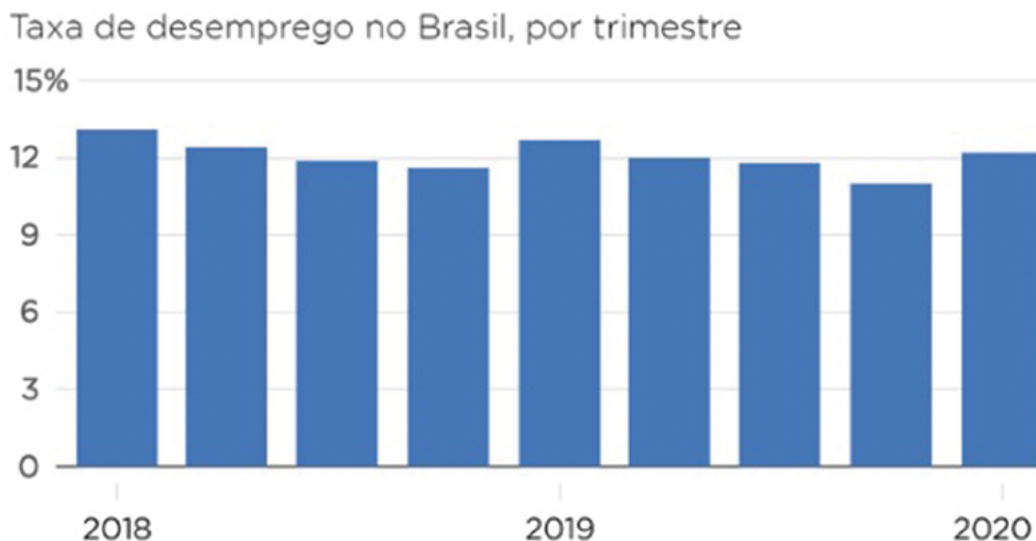
Que lajotas o vendedor deve mostrar Lúcia?

- a. Losango ou quadrado.
- b. Quadrado ou retângulo.
- c. Quadrado ou trapézio.
- d. Losango ou trapézio.

Sequence 2

Skill 42 - Solve problems involving information presented in tables and/or graphs.

1. Note the unemployment rate in Brazil, by trimester (quarter), between 2018 and 2020.



Fonte: Nexo Jornal. Disponível em: <<https://www.nexojornal.com.br/expresso/2020/04/30/O-que-diz-o-primeiro-dado-de-desemprego-na-pandemia>>. Acesso em: 28 maio. 2020.

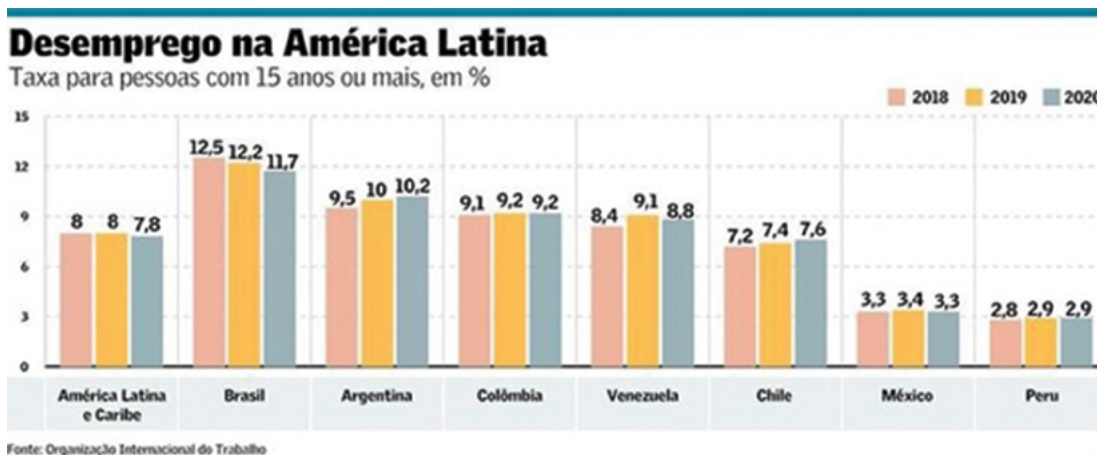
- a. What happened in the 2018 quarters?

- b. From the first quarter of 2019, did the taxa de desemprego (unemployment rate) decrease or increase until the last quarter of the same year?

- c. According to the graph, which quarter, and which year, presented the highest taxa de desemprego (unemployment rate) in Brazil?



2. Now, look at the data graph, according to the Organização Internacional do Trabalho (OIT), about unemployment in Latin America.



Fonte: Valor. Disponível em: <<https://valor.globo.com/brasil/coluna/oit-projeta-reducao-lenta-da-taxa-de-desemprego-no-brasil-em-2019-e-2020.ghml>>. Acesso em: 28 maio. 2020.

- a. Which country leads that ranking?

- b. Which country, according to the graph, has the lowest unemployment rate?

- c. What is the arithmetic average of the unemployment rate in Brazil from 2018 to 2020?

- d. Which countries increased their unemployment rate in the three straight years?

3. In its XXIII edition, the Jogos Olímpicos de Inverno 2018 took place in South Korea in the first half of 2018. In this edition, 92 countries participated and there were a total of 15 sports modalities.

The following table shows the rankings of the 10 best ranked countries.

POSIÇÃO	PAÍS	OURO	PRATA	BRONZE	TOTAL
1	Noruega	14	14	11	39
2	Alemanha	14	10	7	31
3	Canadá	11	8	10	29
4	Estados Unidos	9	8	6	23
5	Holanda	8	6	6	20
6	Suécia	7	6	1	14
7	Coreia do Sul	5	7	5	17
8	Suíça	5	6	4	15
9	França	5	4	6	15
10	Áustria	5	3	6	14

Fonte: Globo Esporte. Disponível em: <<http://interativos.globoesporte.globo.com/olimpiadas-de-inverno/quadro-de-medalhas/2018>>. Acesso em: data mês. ano.

a. Observe the total of gold, silver, and bronze medals won by the countries listed on the table and complete the information below.

Descrição	Total
Medalhas de ouro	
Medalhas de prata	
Medalhas de bronze	

b. What is the difference between the gold, silver, and bronze medals, considering only the first and tenth places in this edition of the Jogos Olímpicos de Inverno?



Países	Total de medalhas de ouro	Total de medalhas de prata	Total de medalhas de bronze
NORUEGA			
ÁUSTRIA			
DIFERENÇA			

- c. Organize the total medals won in a column graph.



Read the following text to answer the questions.

Nos últimos meses, o mundo vem discutindo sobre a crise do COVID-19, um vírus que matou mais de 300 mil pessoas no planeta, até a data de 21 de maio de 2020. O Ministério da Saúde atualiza os dados referentes ao Brasil diariamente.

Segundo o Ministério, já são 291 579 casos confirmados, sendo que 116 683 pessoas estão recuperadas. Os números apontam também a quantidade de pessoas que perderam a vida no país até essa data, totalizando 18 859 óbitos, com uma taxa de letalidade de 6,5%.

Fonte: Ministério da Saúde. Disponível em: <<https://covid.saude.gov.br/>>. Acesso em: 21 maio. 2020.

4. Look at the board and answer the questions.

	Casos	Óbitos	Incidência/100 mil habitantes	Mortality/100 mil habitantes
Brasil	291.579	18,859	138,7	9,0
Centro-Oeste	8.886	204	54,5	1,3
Sudeste	113.609	9.118	128,6	10,3
Norte	55.580	3,608	301,6	19,6
Sul	13.088	392	43,7	1,3
Nordeste	100.416	5.537	175,9	9,7

Fonte: Ministério da Saúde. Disponível em: <<https://covid.saude.gov.br/>>. Acesso em: 21 maio. 2020.

a. Which region has the highest number of registered cases? How many people infected?

b. Which region has the lowest number of registered cases? How many people infected?

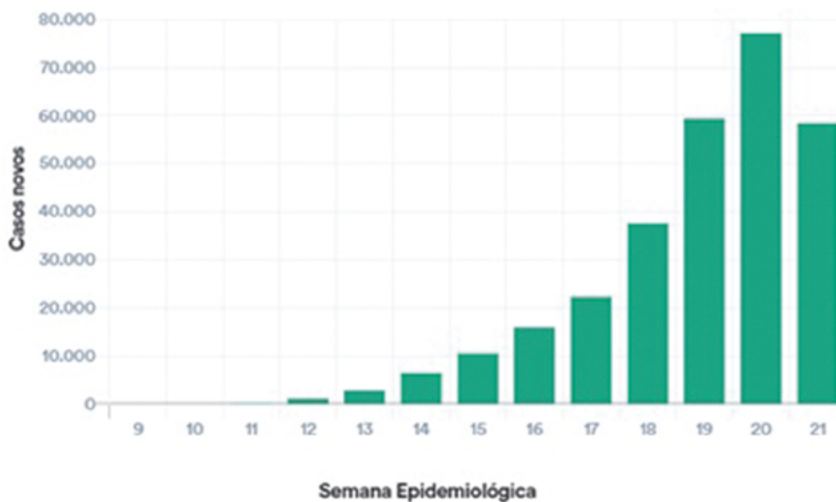
c. What explains that the Norte region has the lowest cases of Covid-19 and has the highest mortality rate than the Sudeste region?

d. Organize and write the regions by Covid-19 case numbers, from highest to lowest.



5. Analyze the graph below and answer the questions.

Casos novos de COVID-19 por Semana Epidemiológica de notificação



Fonte: Ministério da Saúde. Disponível em: <<https://covid.saude.gov.br/>>. Acesso em: 21 maio. 2020.

- a. Which was the week with the highest number of reported cases of Covid-19?

- b. Did the following week present an increase or decrease in confirmed cases? What can explain this event?

Sequence 3

Skill 45 - Solve problems involving basic ideas of probability.

1. In an urn, there are 5 numbered balls (b1, b2, b3, b4, b5). If you withdraw a little one from the urn, which probability has b2 ball to be removed?

2. A coin has flipped twice. Calculate the probability that heads will not occur at any flipping.

3. An urn contains 10 green balls, 8 red balls, 4 yellow, and 5 white balls, the same size each one. Which is the probability of the ball being:

a. Green

b. Red

c. Yellow

d. White



4. Playing two identical dice, what is the probability of happening:

a. The sum to be 6

b. The sum to be 11

c. The sum to be 13

d. The sum to be 2

e. The sum to be 1

5. In a group of 80 students, 50 play soccer, 40 play volleyball, and 20 play soccer and volleyball. By randomly choosing one of these students, what is the probability of this student:

a. Playing volleyball or football.

b. Playing only football.

c. Do not practicing any of these sports.
