Lebanese University
Faculty of Pedagogy

الجامعة اللبنانية
كلية التربية
العمادة

Entrance Exam 2019-2020

Mathematics Duration: 2 hours

N.B. – Calculators are NOT allowed.
- Write your answers on this questions sheet.

1) Write each number in expanded form (1½ pts.).

   a. 385 ----------

   b. 43 030 730----------

   c. 82.08 ----------

2) Find the missing digits (3½ pts.):

$\begin{array}{r} 58\square \\ +6\square 5 \\ \hline 1\square 14 \end{array}$	$\begin{array}{r} 3\square 4\square 5 \\ -17\square 1\square \\ \hline 15348 \end{array}$
$\begin{array}{r} 37\square\square 7 \\ \times \quad \square\square \\ \hline \square 96296 \\ \square\square\square\square 7 \\ \hline \square\square\square\square\square\square \end{array}$	$\begin{array}{r\|l} \square\square\square\square & 66 \\ \hline 528 & 84 \\ 275 & \\ 264 & \\ 11 & \end{array}$

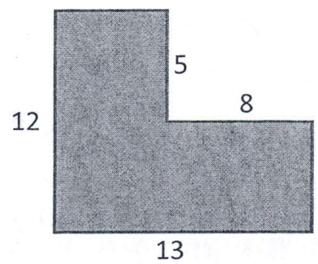
هيام الفريح

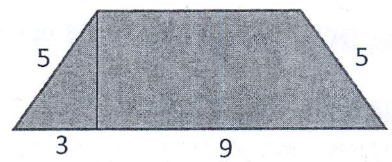
جورج رزق الله

هبة النقاش 1

ايلي قازان
الاكسعة

4) Find the perimeter and the area of the following shapes (4 pts.)





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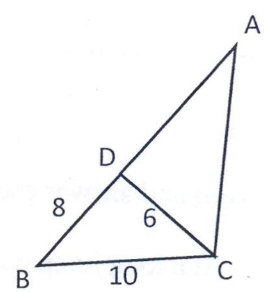
5) In the adjacent figure, points A, D and B are collinear.

Given BD = 8 units, DC = 6 units and BC = 10 units. (2 pts.)



a. Show that the triangle DBC is right.

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b. If the area of the triangle ABC is 60 square units, find DA.

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ايلي قازان

2. In a school 1/2 of the students are younger than 10, 1/20 are 10 years old and 1/10 are older than 10 but younger than 12, the remaining 70 students are 12 years or older. How many students are 10 years old?

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3. A family spent two weeks in the mountains, one week in the Chouf region and one week in the Mount Lebanon region. They took 3 times less photos of Chouf than Mount Lebanon. The family has returned with 244 photos. How many photos did the family take from Chouf? How many photos did she take from Mount Lebanon?

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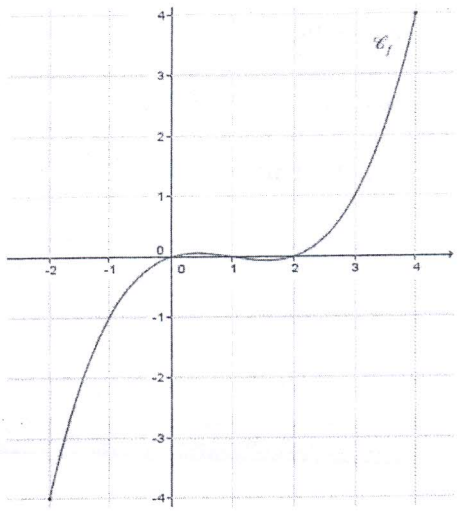
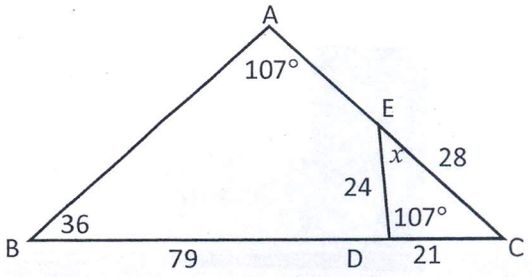
8) Consider the graph of a function f (2 pts.):



In the table below, choose the right answer

		A	B	C	Yourchoice
1	The domain of definition of f is:	$[-4;4]$	$[-2;4]$	The set of real numbers	
2	$f(3)$ is equal to:	1	3	undefined	
3	The derivative $f'(-1)$ of f at -1 is :	negative	zero	positive	
4	The equation $f(x)=2$ admits:	1 solution	2 solutions	none	

6) Consider the triangles ABC and DEC shown in the figure opposite. Given BD = 79 units, DC = 21 units, EC = 28 units and ED = 24 units. Find (2 pts.):



a. the angle x.

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b. the length of the segment [AE].

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7) Read and answer each question (5 pts.):

1. At a long jump competition, each athlete can make 3 jumps. Nada's first jump is 4.79m. She jumped 32 cm further in her second jump. In her third jump, she jumped 80 mm less than her second jump. What is her result for the third jump?

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3) In the following table, circle ALL the correct answers (5 pts.).

Given	Answers			
	A	B	C	D
The number $\sqrt{2}$ is:	equal to 1.41	the positive number whose square is 2	positive	the square of 2
11^{-4} isequal to	$11^{5}\times 11^{-9}$	$11^{-3}\times 11^{7}$	$\frac{11^{9}}{11^{5}}$	$\frac{11^{3}}{11^{7}}$
$\frac{(-19)^{-2}}{(-19)^{5}}$ isequal to:	19^{-7}	$(-19)^{-7}$	$(-19)^{7}$	$(-19)^{3}$
$-\frac{2}{5}\times\frac{15}{7}$ isequal to:	$-\frac{30}{35}$	$-\frac{14}{35}\times\frac{75}{35}$	$-\frac{17}{12}$	$\frac{6}{7}$
$\frac{11}{8}:\frac{3}{4}$ is equal to:	$\frac{33}{32}$	$\frac{24}{44}$	$\frac{11}{6}$	$\frac{44}{24}$
In factorized form, the expression $16x^2-8x+1$ is equal to	$8x(2x-1)+1$	$(4x-1)^2$	$(4x-1)(4x+1)$	$(4x+1)^2$
The inequality $(x-3)(x+2)\leq 0$ admits for a solution set: ·	-2 and 3	The numberslessthan -2	The numbers -2, -1, 0, 1, 2and 3	The numbers in the interval $[-2;3]$
The area of a square of side 10 cm is:	$1.0\times 10^{2}\text{m}^2$	$1.0\times 10^{3}\text{m}^2$	$1.0\times 10^{-2}\text{m}^2$	$1.0\times 10^{-1}\text{m}^2$
2.51 km isequal to :	2.51×10^{3} m	2.51×10^{-3} m	2.51×10^{2} m	2.51×10^{-2} m
A ball is drawn at random from an urn containing 6 red and 3 blue balls. The event: "obtaining a blue ball" has a probability equal to	0	$\frac{6}{9}$	$\frac{1}{3}$	$\frac{3}{6}$

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