MODEL EXAMEN ADMITERE X

* Obligatorii

1

Check if 3 is the solution of the inequality: *
(1 punct)

$3x - \frac{1}{2} \leq 5.6$

2

Calculate :
(1 punct)

$3^{\frac{-1}{2}} \times \sqrt{3^2}$

3

a) Find the vertex for the quadratic function below.
b) Find the x-intercept for the function. *
(2 puncte)

$f(x) = 3x^2 - 2x + 1$

4

Students at a certain school got the following results on the test: 10, 10,10, 15,12, 20, 21.
Find the average, mode and median in this order. *
(3 puncte)

5

Find the intersection between the lines of equations : *
(1 punct)

$2x + y = 6 \; and \;\; y = x - 3$

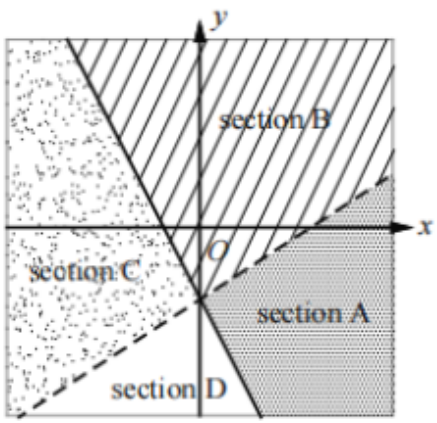
6

Find the equation of the line that passes through point (2, -1) and has slope -1 ? *
(1 punct)

7

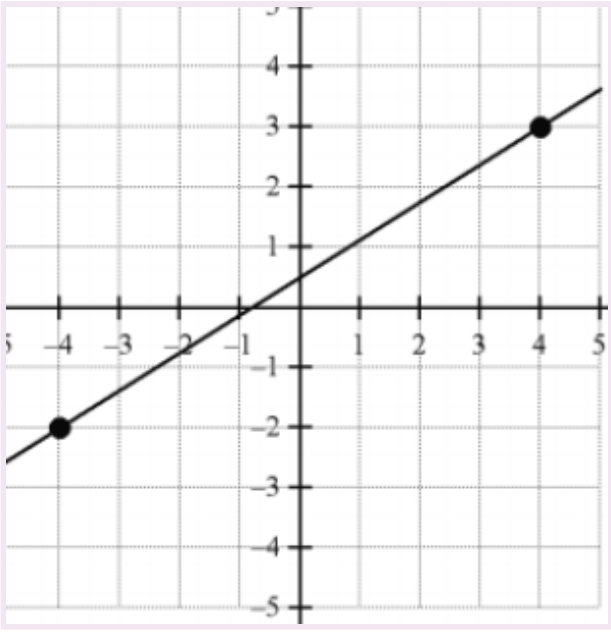
A system of inequalities and a graph are shown on the right.
Which section or sections of the graph could represent all of the solutions to the system ? *
(1 punct)

$$\begin{cases} 2x + y \geq -1 \\ 2x - 3y < 3 \end{cases}$$



8

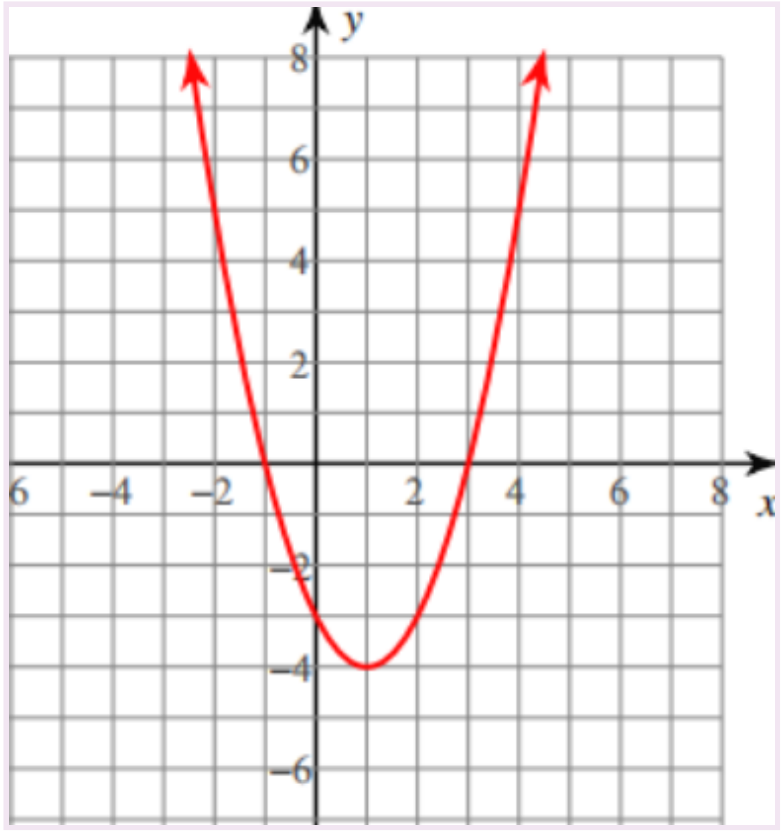
Find the equation of the line in the next figure. *
(1 punct)



9

Find :
a) the y-intercept

b) equation for quadratic function
associated with the adjacent graph. *
(2 puncte)



10

John's salary increases from $ 1700 to $ 2100. What is the percent increase of his salary ? *
(1 punct)

11

A football is kicked into the air. Its height h, in meters, after t seconds is given by the equation below.
a) How high is the ball after 1 second?
b) Find the maximum height of the ball to one decimal place. *
(2 puncte)

$h(x) = -2x^2 + 3x + 1$