Name: $\qquad$ Date: $\qquad$

## QUIZ - LINES

1. (28\%) Given the equations I) $3 x+y=1$ and II) $-3 x+y=2$.
a. (8\%) Write both lines in the explicit form.
b. $(2 \%) \mathrm{m}_{\mathrm{I}}=$ $\qquad$
c. $(2 \%) \mathrm{m}_{\mathrm{II}}=$ $\qquad$
d. $(10 \%)$ What is the relative position between the lines? Explain! In case the lines intersect find their intersection.
e. (6\%) Are they perpendicular? Explain and show!
2. $(28 \%)$ Given the equations I) $x+2 y=1$ and II) $-2 x-4 y=4$.
a. (8\%) Write both lines in the explicit form.
b. $(2 \%) \mathrm{m}_{\mathrm{I}}=$ $\qquad$
c. $(2 \%) \mathrm{m}_{\mathrm{II}}=$ $\qquad$
d. $(10 \%)$ What is the relative position between the lines? Explain! In case the lines intersect find their intersection.
e. (6\%) Are they perpendicular? Explain and show!
3. $(44 \%)$ Given the equation of the line: $2 x+6 y=8$
a. (8\%) Find its $x$ intercept: $\qquad$ Find its y intercept: $\qquad$
b. (4\%) Sketch the line on the graph below.
c. (4\%) Write down its slope: $\qquad$
d. $(6 \%)$ Find the midpoint between the x and y intercepts: $\qquad$
e. (4\%) find the points where $x=1,7$ denote them $A$ and $B$

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\mathrm{A}=(\ldots, \ldots) \quad \mathrm{B}=(\ldots, \ldots)
$$

f. $(8 \%)$ Find the distance between the points A and B.
g. (4\%) Write down the equation of a parallel line: $\qquad$
h. (6\%) Find the equation of a perpendicular line containing the point $(1,0)$ :


