## QUIZ 9 - MATH GRADE 9

1. (4\%) Show the following interval on the number line: $x \in(-2,5]$

| -10 | -9 | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $X$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

2. (4\%) Show the following interval on the number line: $x>2$

3. (4\%) Show the following interval on the number line: $x \in[-6,-1[$

4. (4\%) Show the following interval on the number line: $-\infty<x \leq 0$

5. ( $6 \%$ ) Write down in 2 different notations the interval on the number line:

(I) $\qquad$
(II) $\qquad$
6. (6\%) Write down in 2 different notations the interval on the number line:

(I) $\qquad$
(II) $\qquad$
7. $(40 \%)$ Solve the inequalities:
a. $(8 \%)-3 x+1 \leq 7$
b. $(16 \%) \frac{7}{6}<\frac{x}{3}-\frac{3 x+1}{2}$
c. $(8 \%)$ Sketch both inequalities on the number line:

| -10 | -9 | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\boldsymbol{- 1}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

d. $(8 \%)$ Write down their intersection:
8. (16\%) Solve the inequality: $-3<1-\frac{4-6 y}{4}<12$ and show it on the graph:

9. ( $16 \%$ ) Solve the inequality $\frac{x}{2}+1<\frac{x}{-6}+x$ and show it on the graph:


