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

## QUIZ - CORRELATION

1. $(5 \%)$ In case of a perfect positive correlation the value of $r$ is $\qquad$
2. $(5 \%)$ In case of a perfect negative correlation the value of $r$ is $\qquad$
3. $(5 \%)$ In case of a no correlation the value of $r$ is $\qquad$
4. (5\%) Finally $r$ is between $\qquad$ and $\qquad$
5. $(10 \%)$ Given the following correlation:


Estimate the value of r : $\qquad$
6. (70\%) The relation between the amount of time spend a day using cell phone and the amount of time reading was studies and the following results obtained:

| Time <br> Using <br> Cell <br> Phone <br> (min) | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time <br> reading <br> $(\mathrm{min})$ | 38 | 37 | 35 | 32 | 33 | 30 | 24 | 25 | 21 | 15 | 12 | 5 |

a. $(15 \%)$ Find the correlation coefficient. $r=$ $\qquad$
b. ( $15 \%$ ) What kind of correlation is this: $\qquad$
c. $(15 \%)$ Find the line of best fit: $\qquad$
d. $(15 \%)$ Estimate the time reading of a student who uses the cell phone 22 min a day.
e. ( $10 \%$ ) Estimate the time reading of a student who uses the cell phone 100 min a day. Explain.

