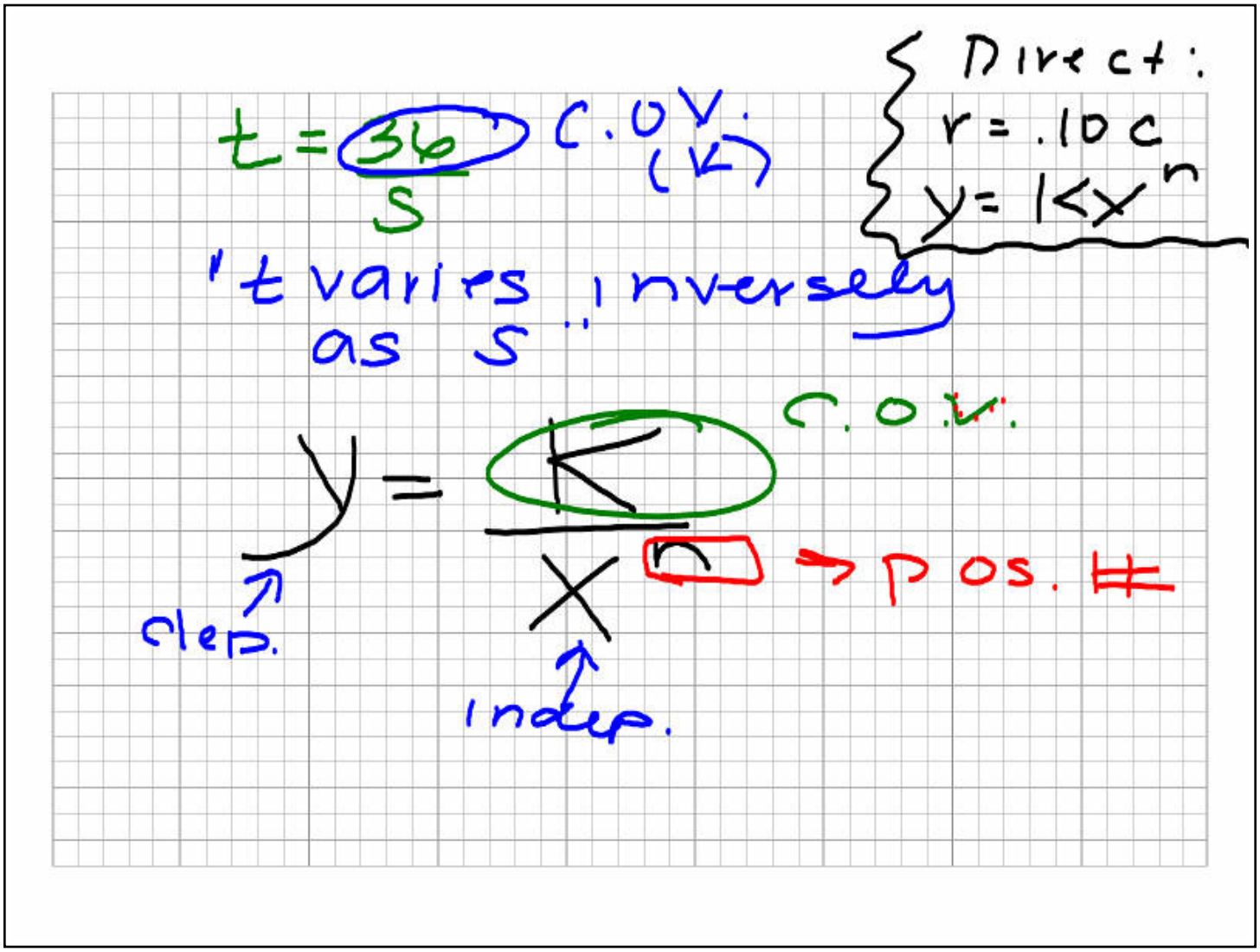
2.2 Inverse Variation

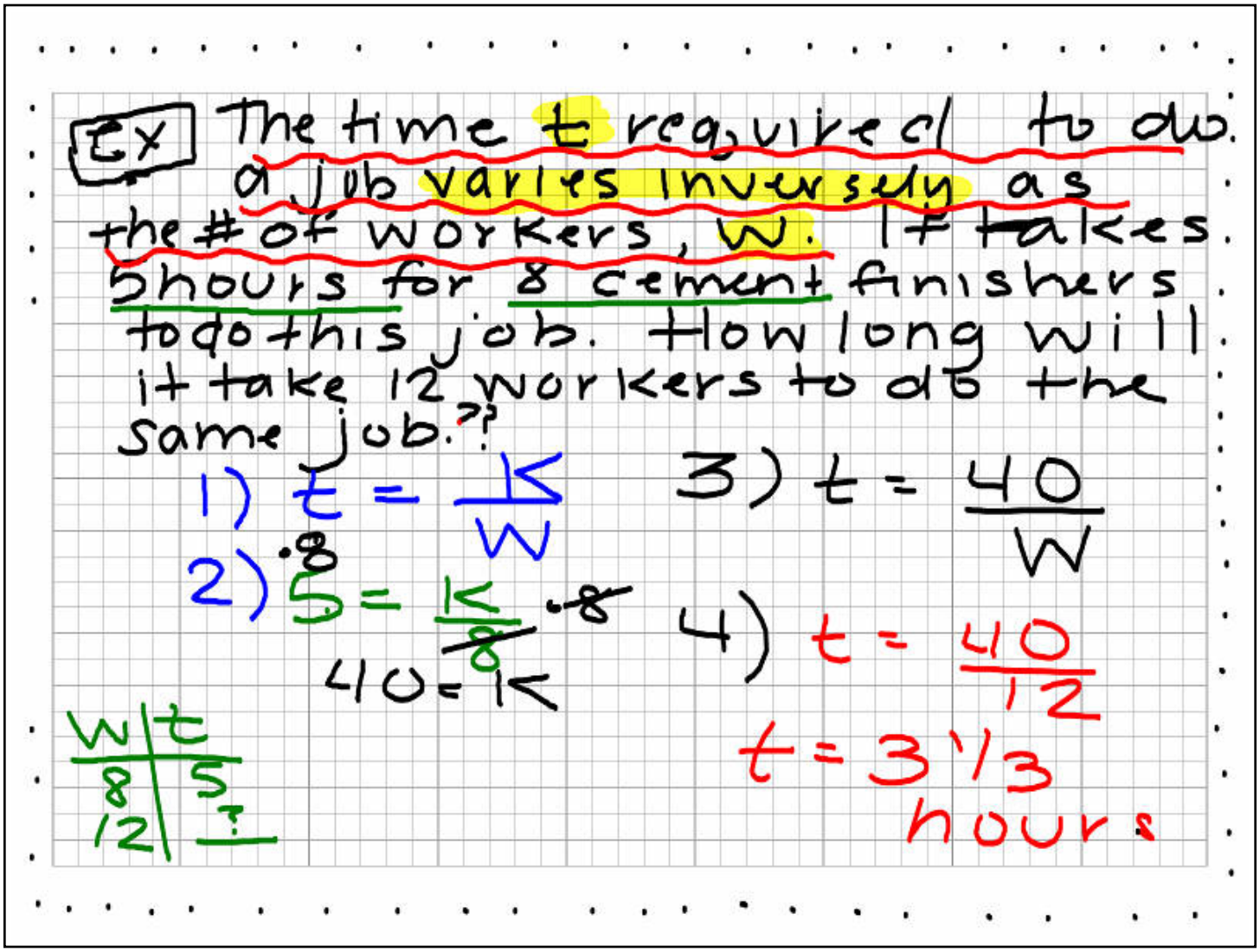
Car Sales mgr hires student to wash cars. The mgr knows it takes 1 student 36 hours to wash all cars on the lot.

S = # students t = time

$\frac{8 \cdot t}{8} = \frac{36}{S}$ $t = \frac{36}{S}$

2.2 Red


Direct:
r = .10c
y = kx^n
t = 36/s
c.o.v.
(k)
't varies inversely as s'
y = k/x^n
c.o.v.
n → pos. ≠
dep.
indep.


Ex The time t required to do a job varies inversely as the # of workers, w. It takes 5 hours for 8 cement finishers to do this job. How long will it take 12 workers to do the same job.??
1) $t = \frac{k}{w}$
2) $5 = \frac{k}{8}$ ·8
$40 = k$
3) $t = \frac{40}{w}$
4) $t = \frac{40}{12}$
$t = 3\frac{1}{3}$ hours
w | t
8 | 5
12 | ?