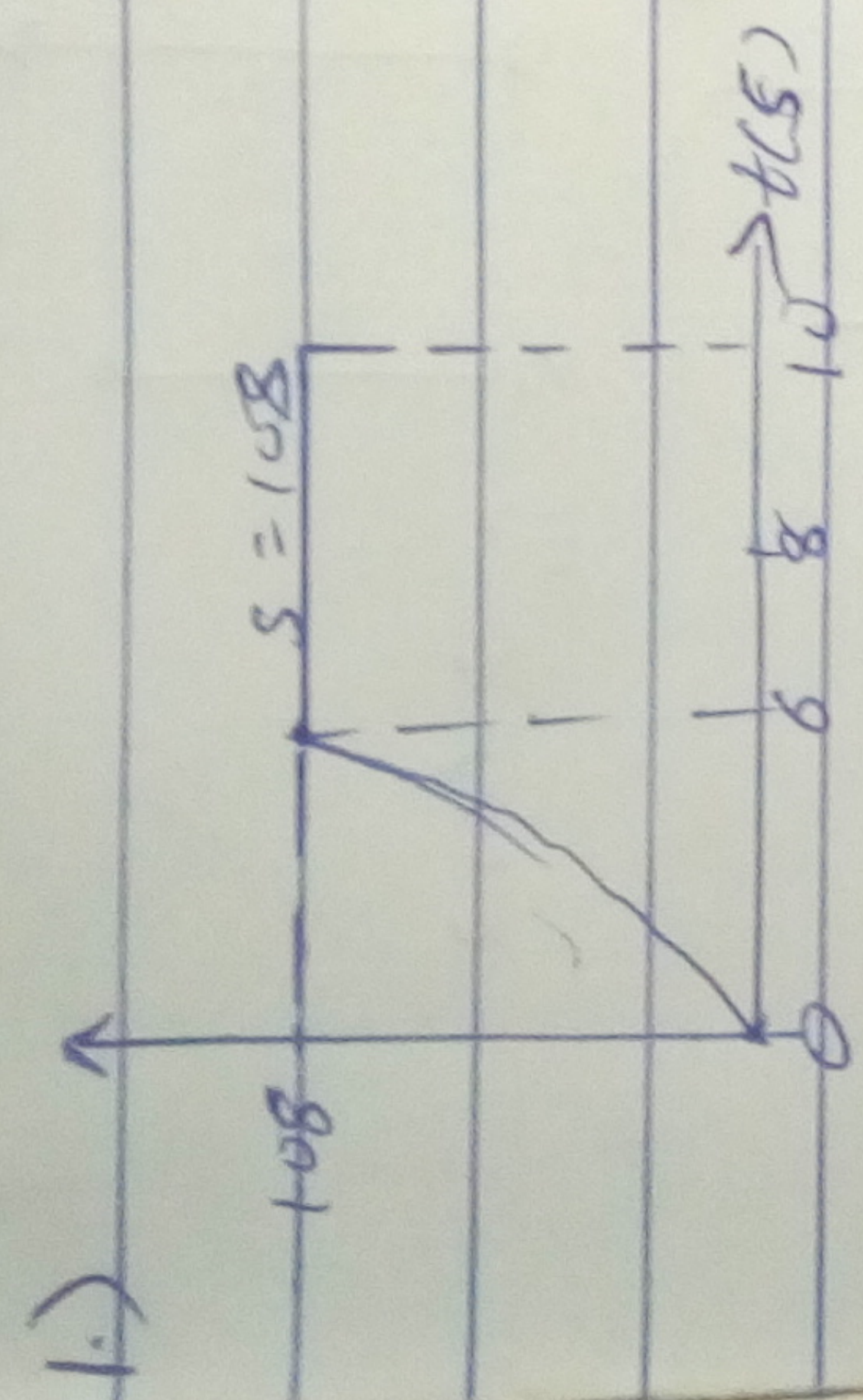


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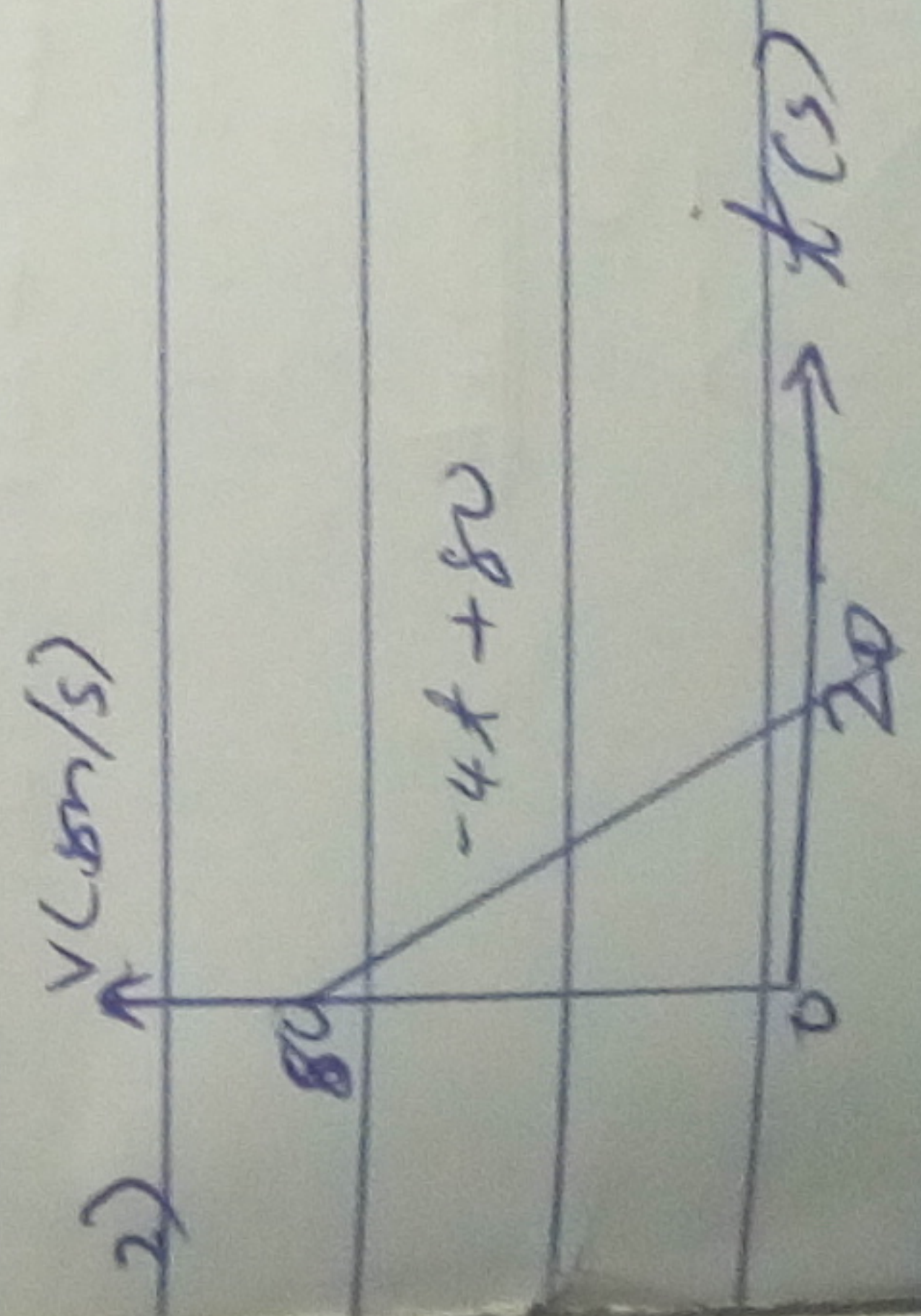
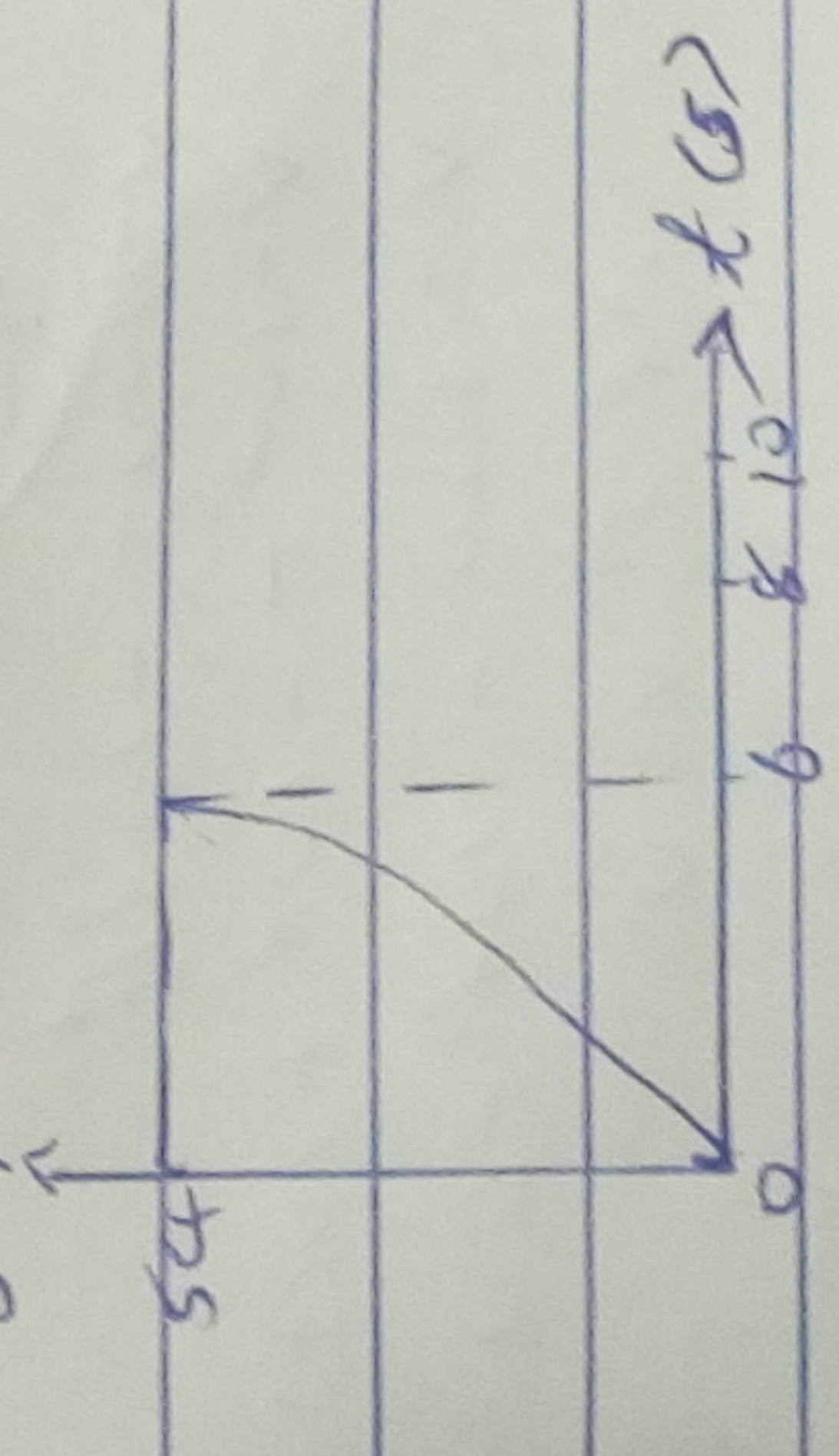


$V = ds/dt$
 $V = 1.5t^2$
 at $t = 6s$
 $V = 1.5 \times 6^2$
 $= 1.5 \times 36$

$v = 54 \text{ m/s}$

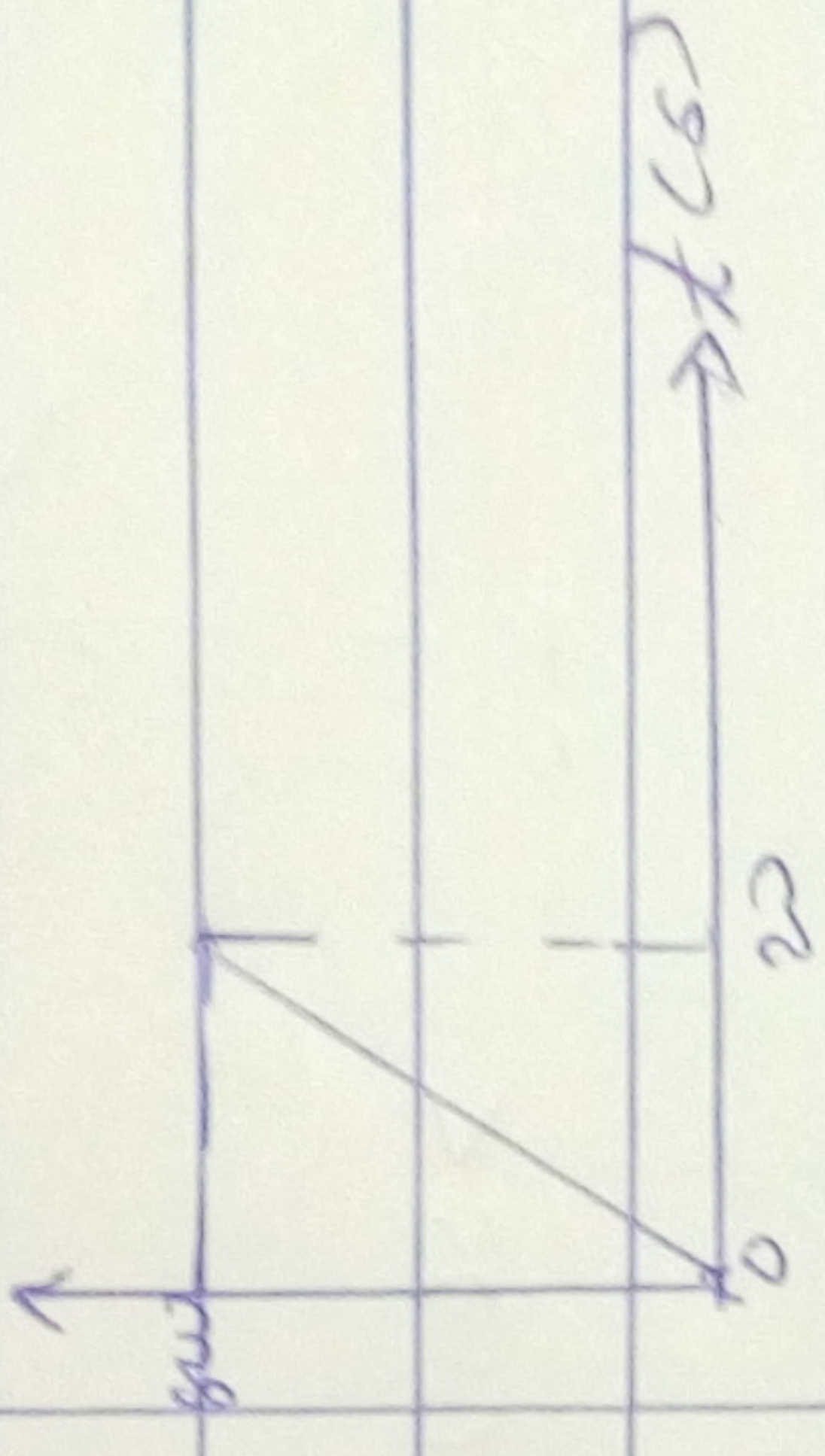
from $t = 6s$ to $t = 10s$

$v = 0$



ii) $S = \int (-4t + 80)$
 $S = 2t^2 + 80t$
 at $t = 20s$
 $S = -2(20)^2 + 80(20)$
 $S = 1600 - 800 = 800 \text{ m}$

S-t graph



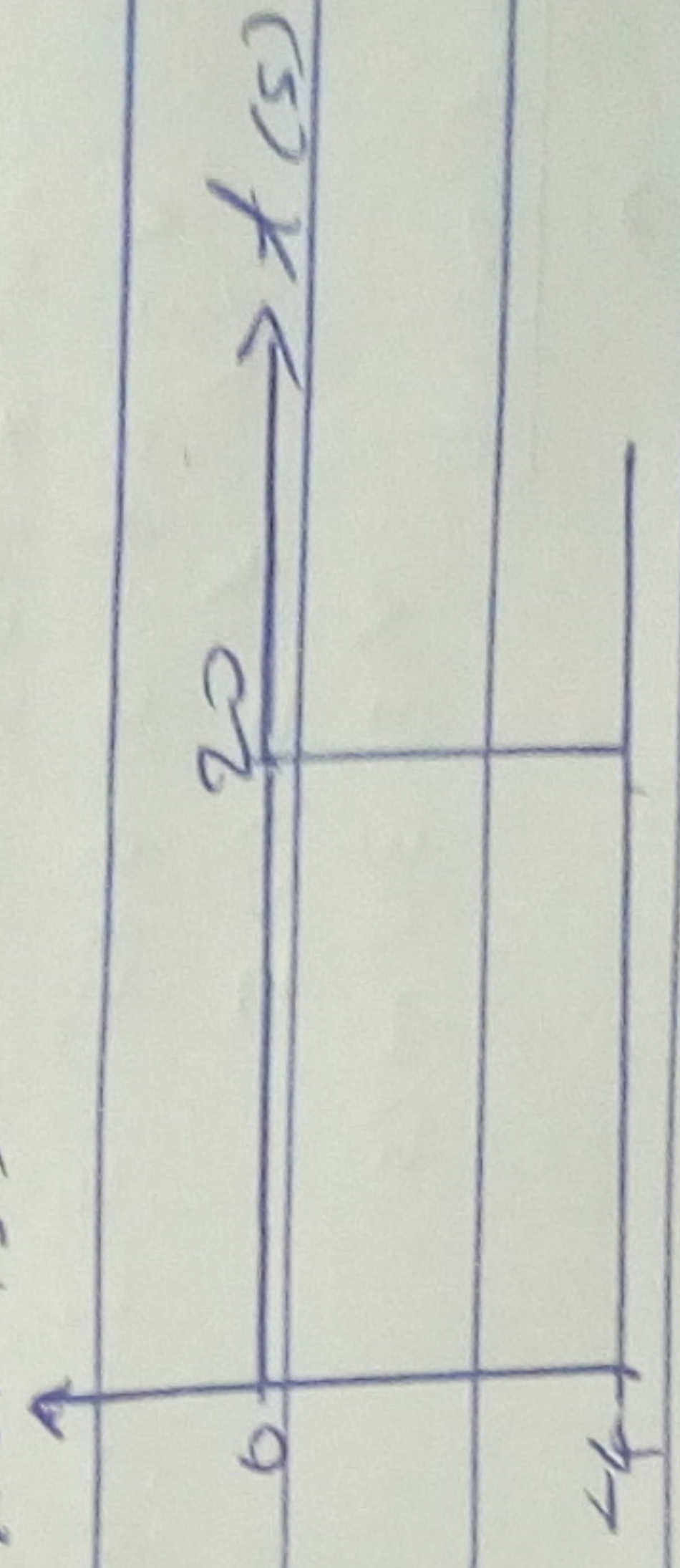
ii) acceleration

$a = dv/dt$

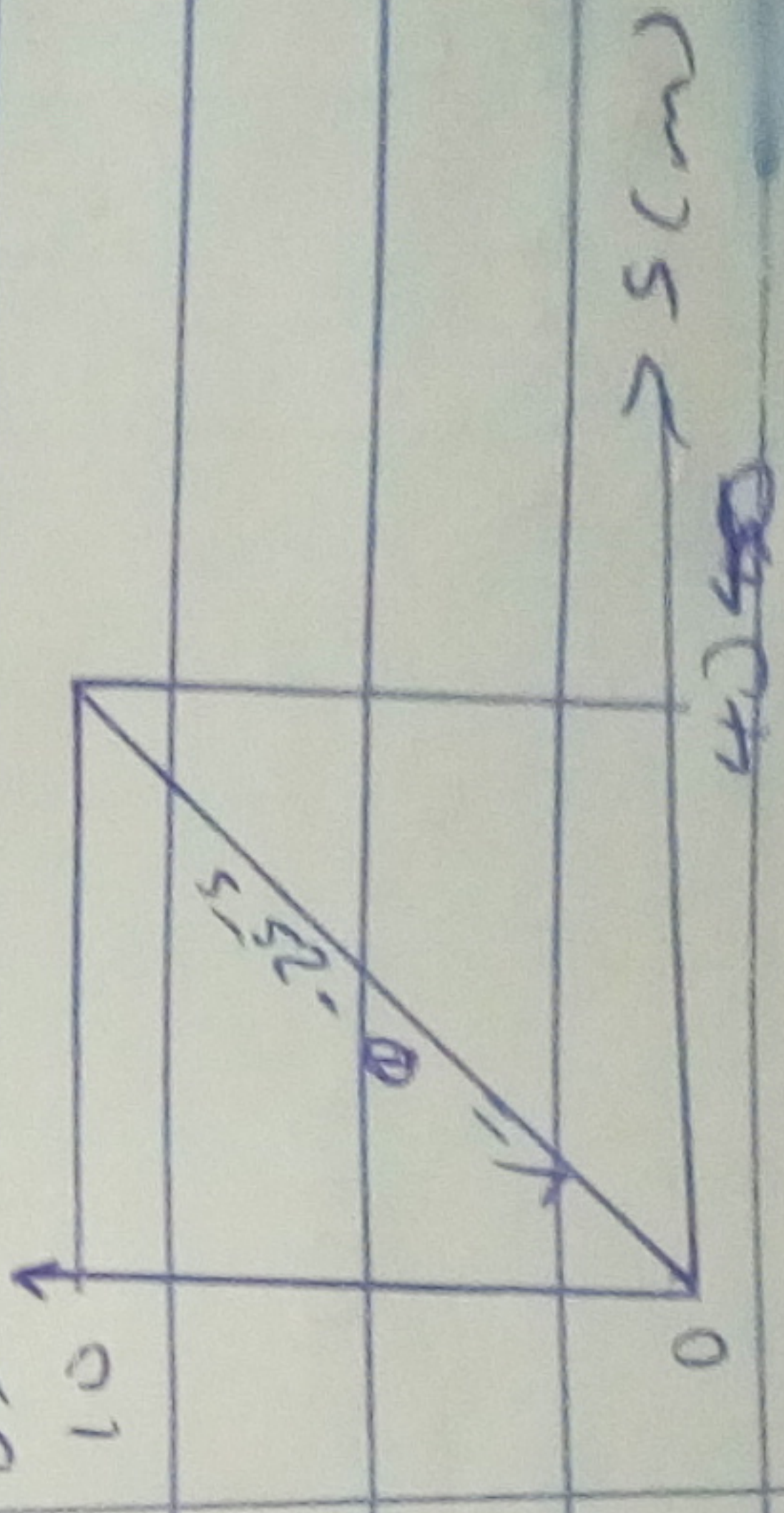
$a = -4 \text{ m/s}^2$

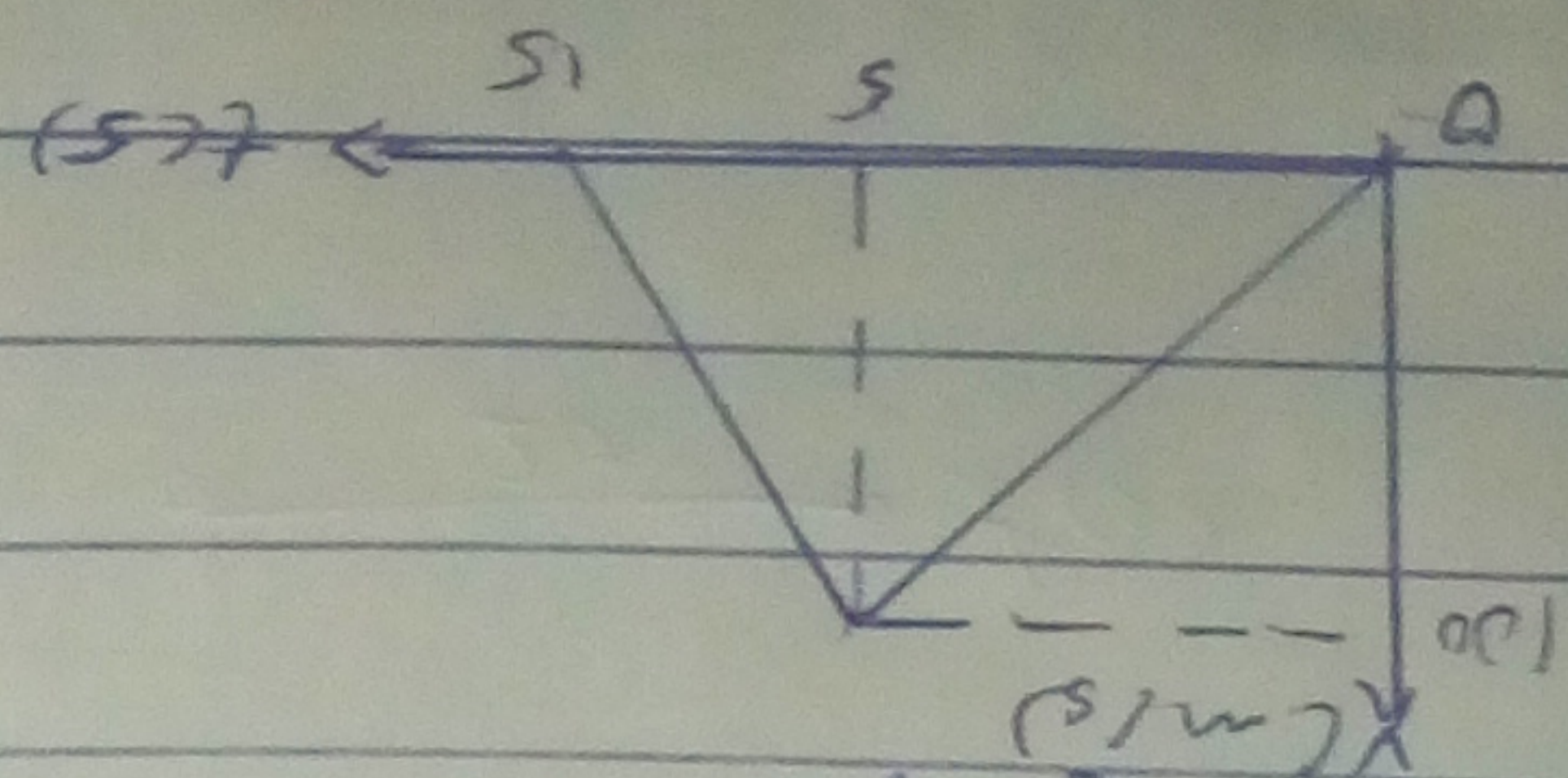
at $t = 20s$, $a = -4 \text{ m/s}^2$

a-t graph



3.) v-t graph





$v-t$ graph

$$10t = 150$$

$$t = 15s$$

$$0 = 10t + 50$$

$$at + v = 0$$

$$v = 10t = -10t + 50$$

$$v - 10t = -10t + 50$$

$$v - 10t = -10t + 50$$

$$\int v dt = \int (-10t + 50) dt$$

$$55 < t < 5$$

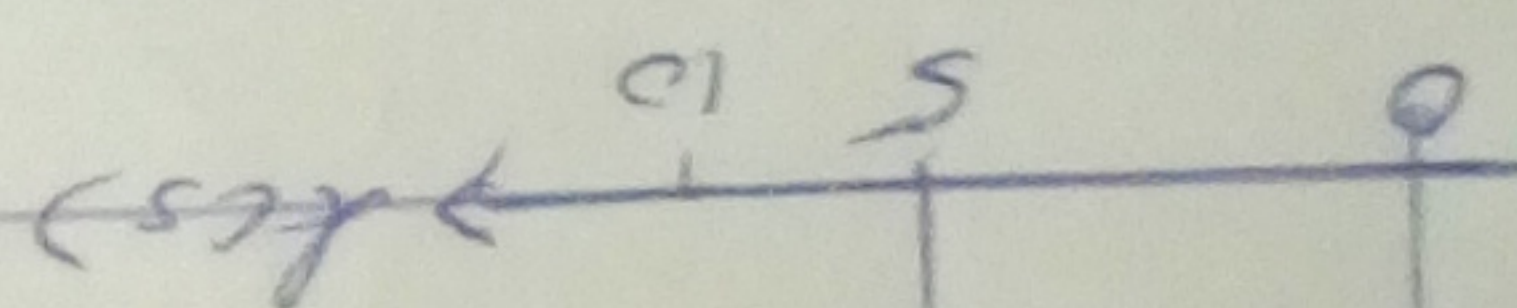
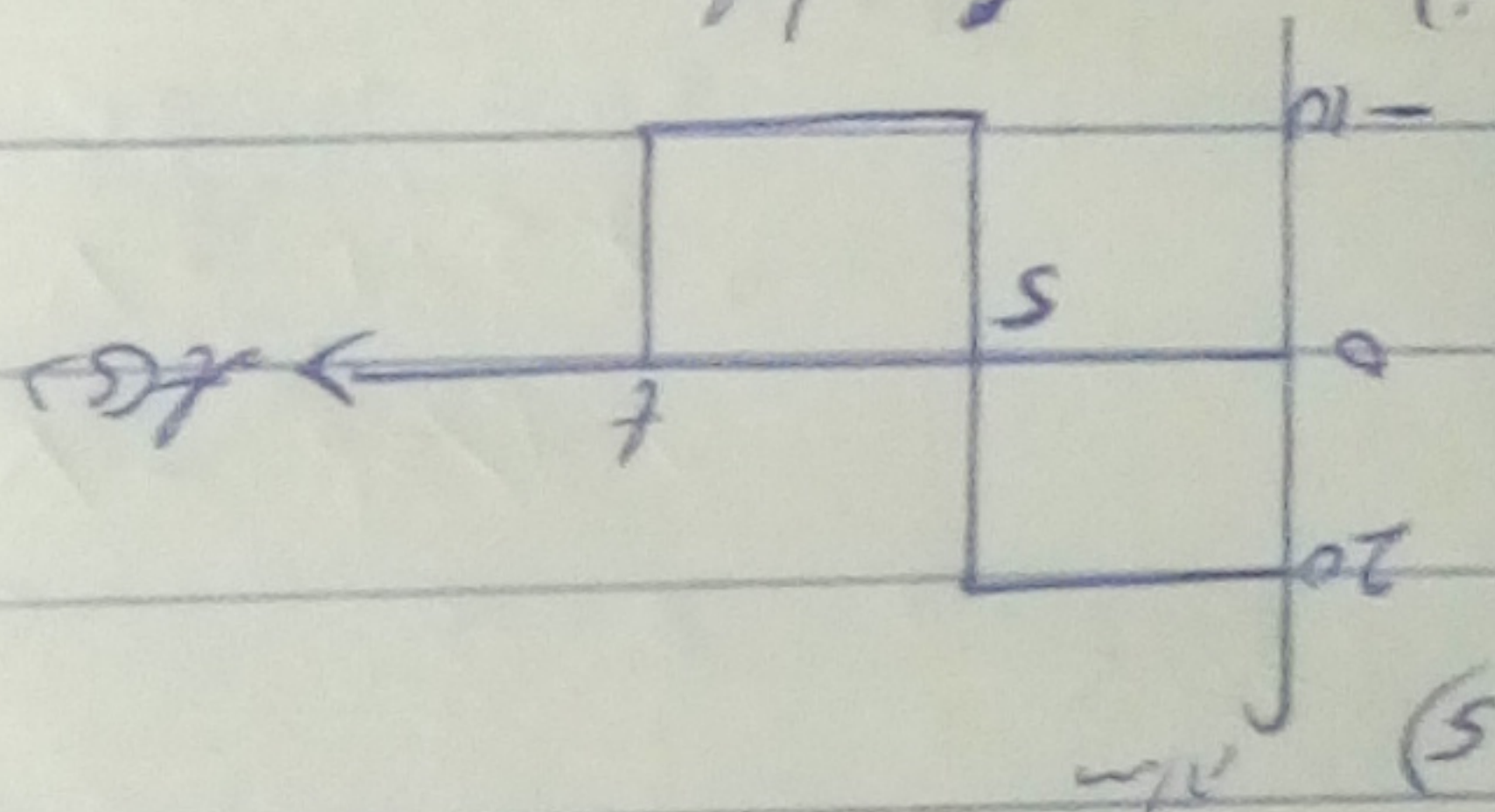
$$v = 20 \times 5 = 100 \text{ m/s}$$

$$at + v = 55$$

$$= 20t$$

$$= \int 20 dt$$

$$v = \int 20 dt$$

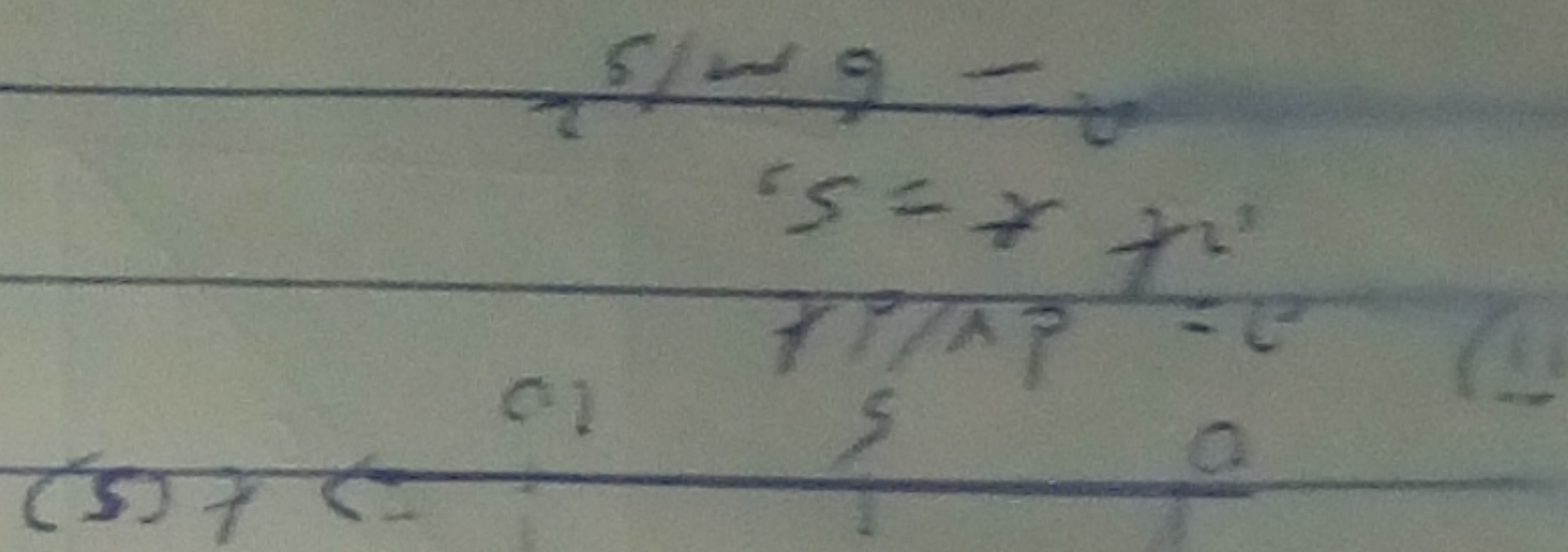


$v-t$ graph

$$v = 10 \times 5$$

$$v = 50 \text{ m/s}$$

$$at + v = 105$$



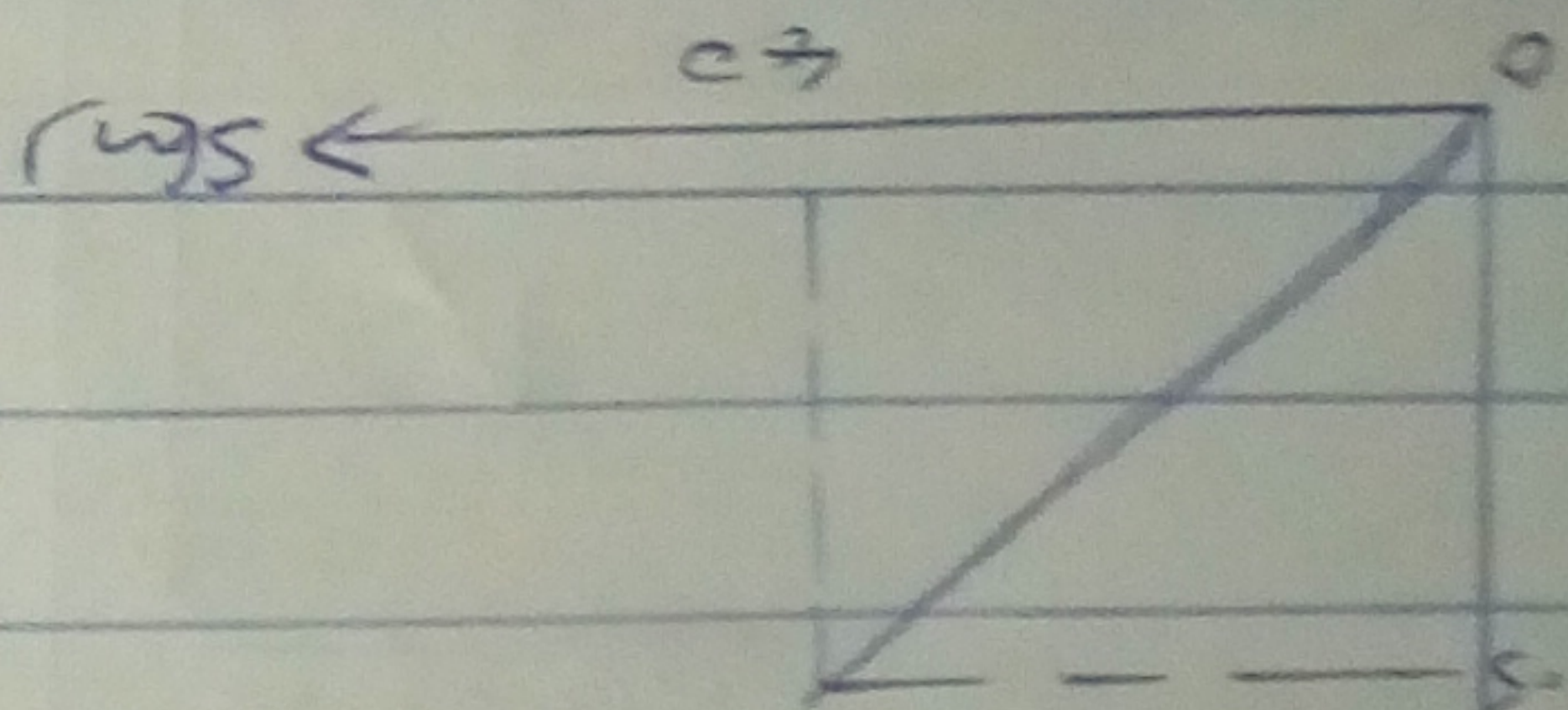
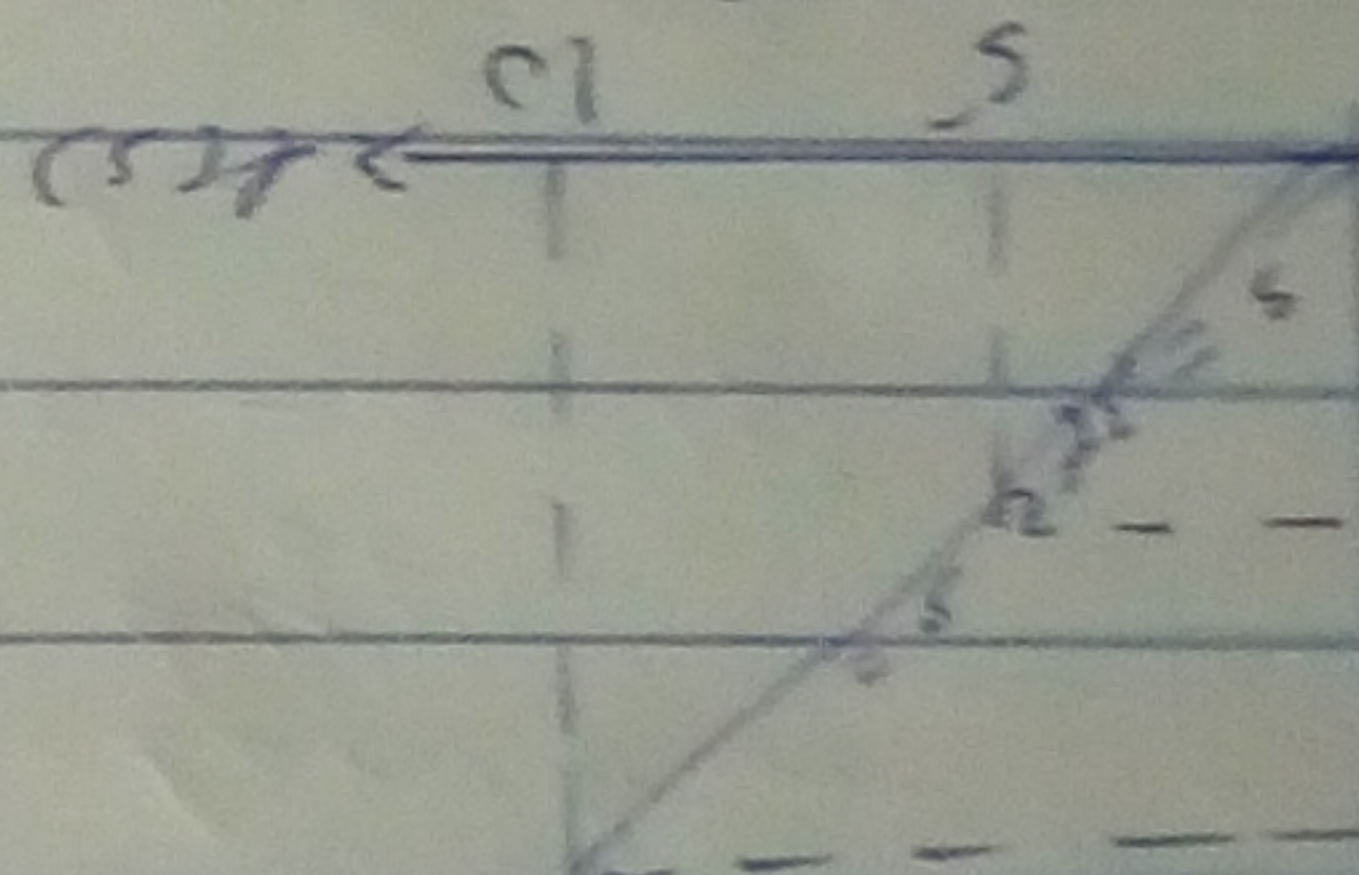
$$v = 30 - 5t$$

$$at + v = 105$$

$$v = 6t = 6 \times 5 = 30 \text{ m/s}$$

$$at + v = 55$$

$$v = 10t$$



$v-t$ graph

$$v = 2.5 \text{ m/s}^2$$

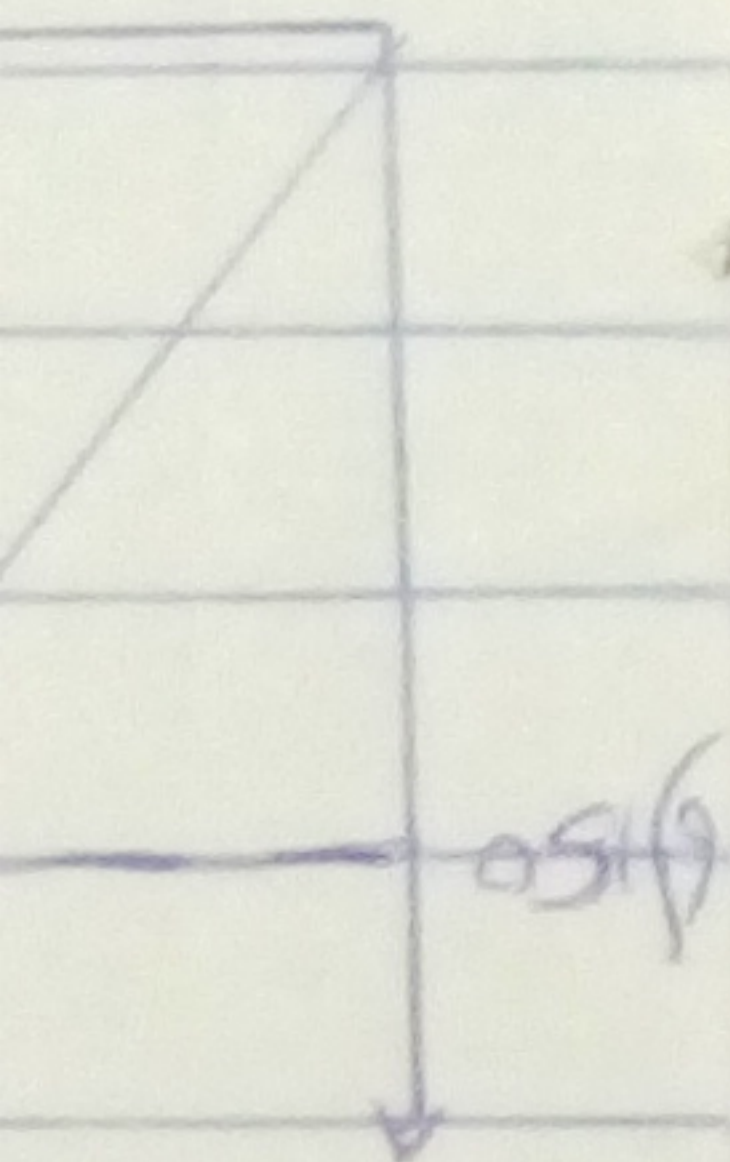
$$v = 10 \times 0.25$$

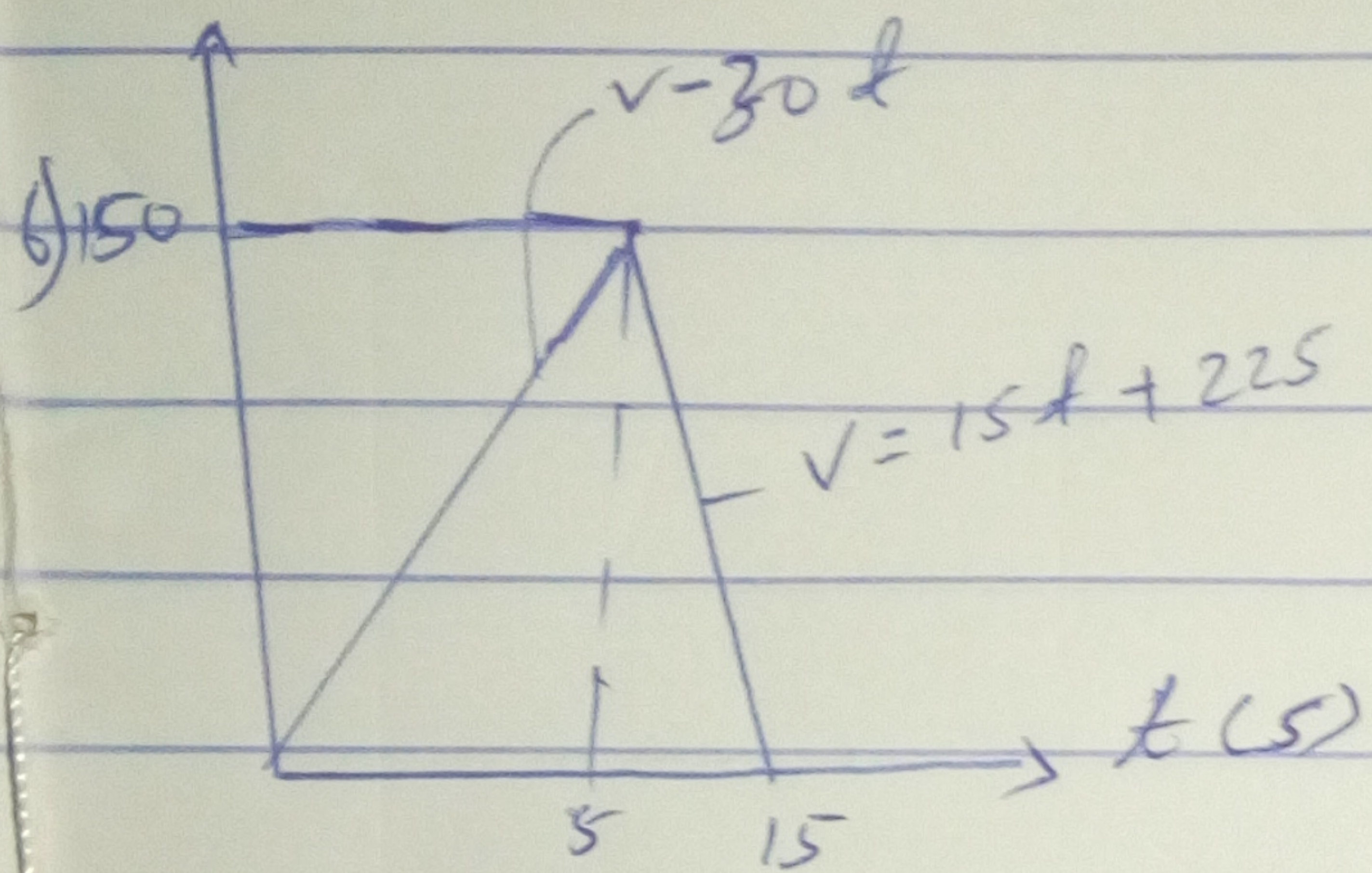
$$v = 10 \times 0.25 = 2.5$$

$$v = 0.25$$

$$v = (a \times t) + v$$

$$\int v dt = \int a dt$$





$$0 \leq t \leq 5$$

$$v = 30t$$

$$\int_0^5 ds = \int_0^5$$