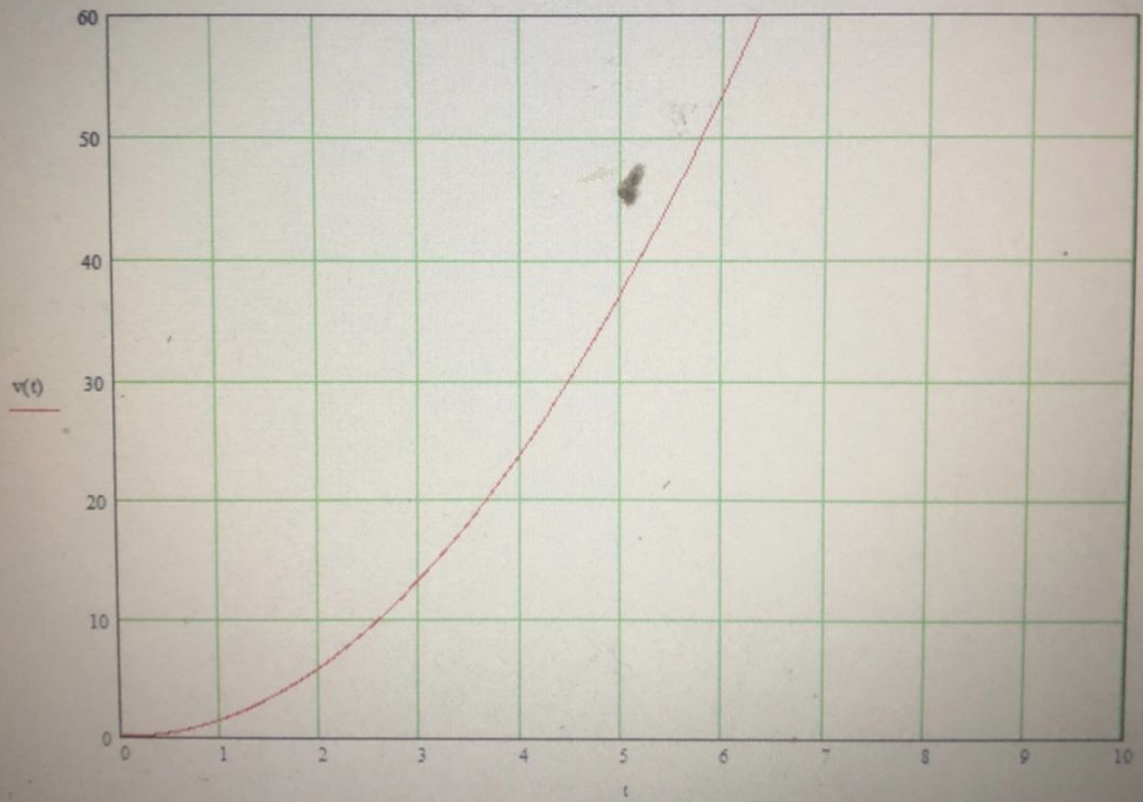


# NUMBER 1

V - T graph

$$v(t) = 1.5 \cdot t^2$$

+

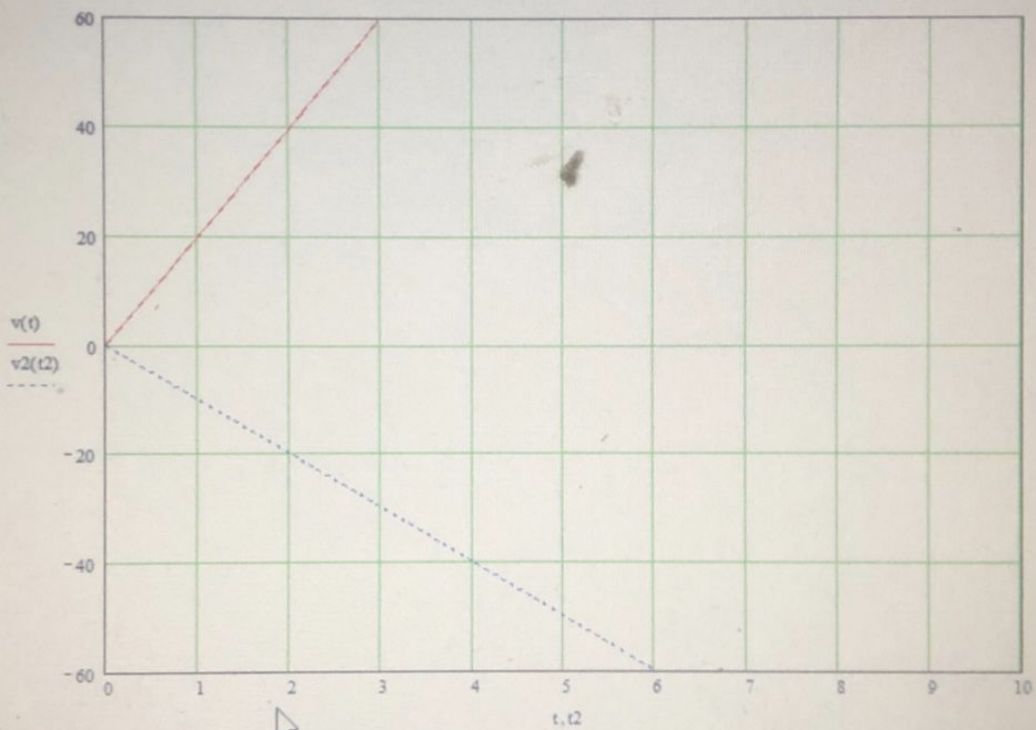


# NUMBER 5

V - T graph

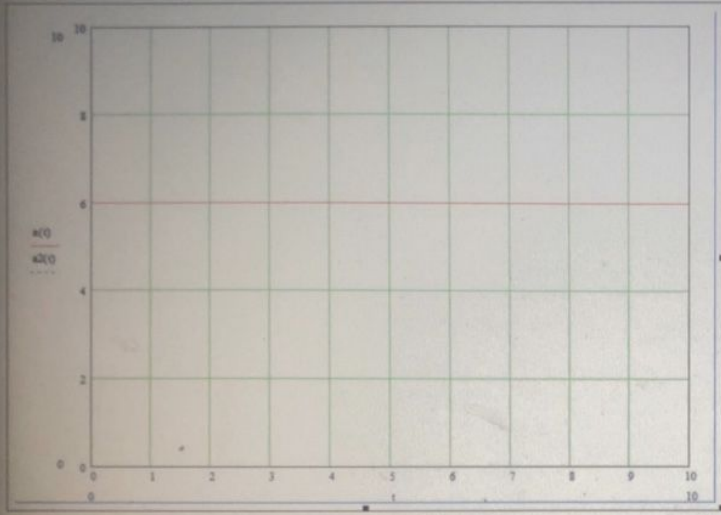
$$v(t) = 20 \cdot t$$

$$v_2(t_2) = -10 \cdot t_2$$



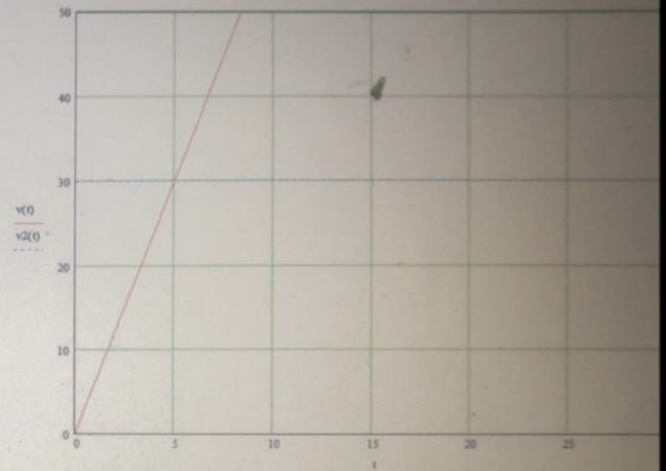
+

A - Tgraph  
 $a(t) = 6$     $a_2(t) = 0$



V - Tgraph

$v(t) = 6 \cdot t$     $v_2(t) = 30$

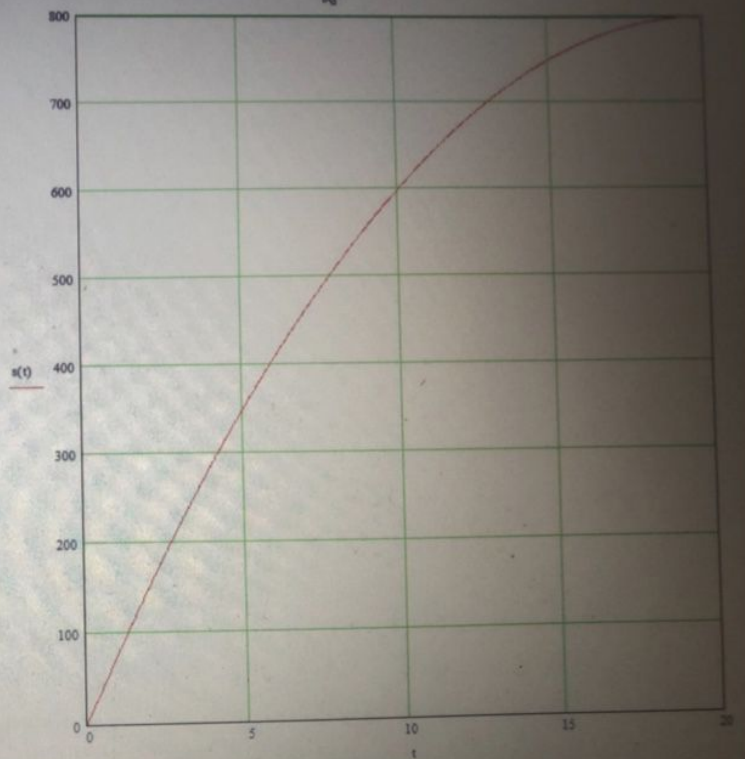
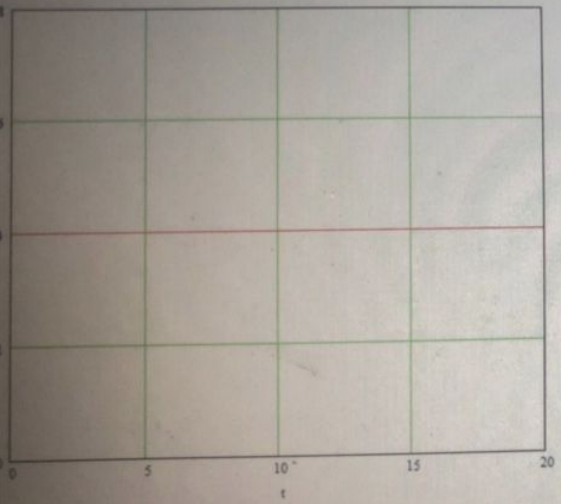


$s(t) = -2 \cdot t^2 + 80 \cdot t + 0$

S - Tgraph

A - Tgraph

$a(t) = -4$

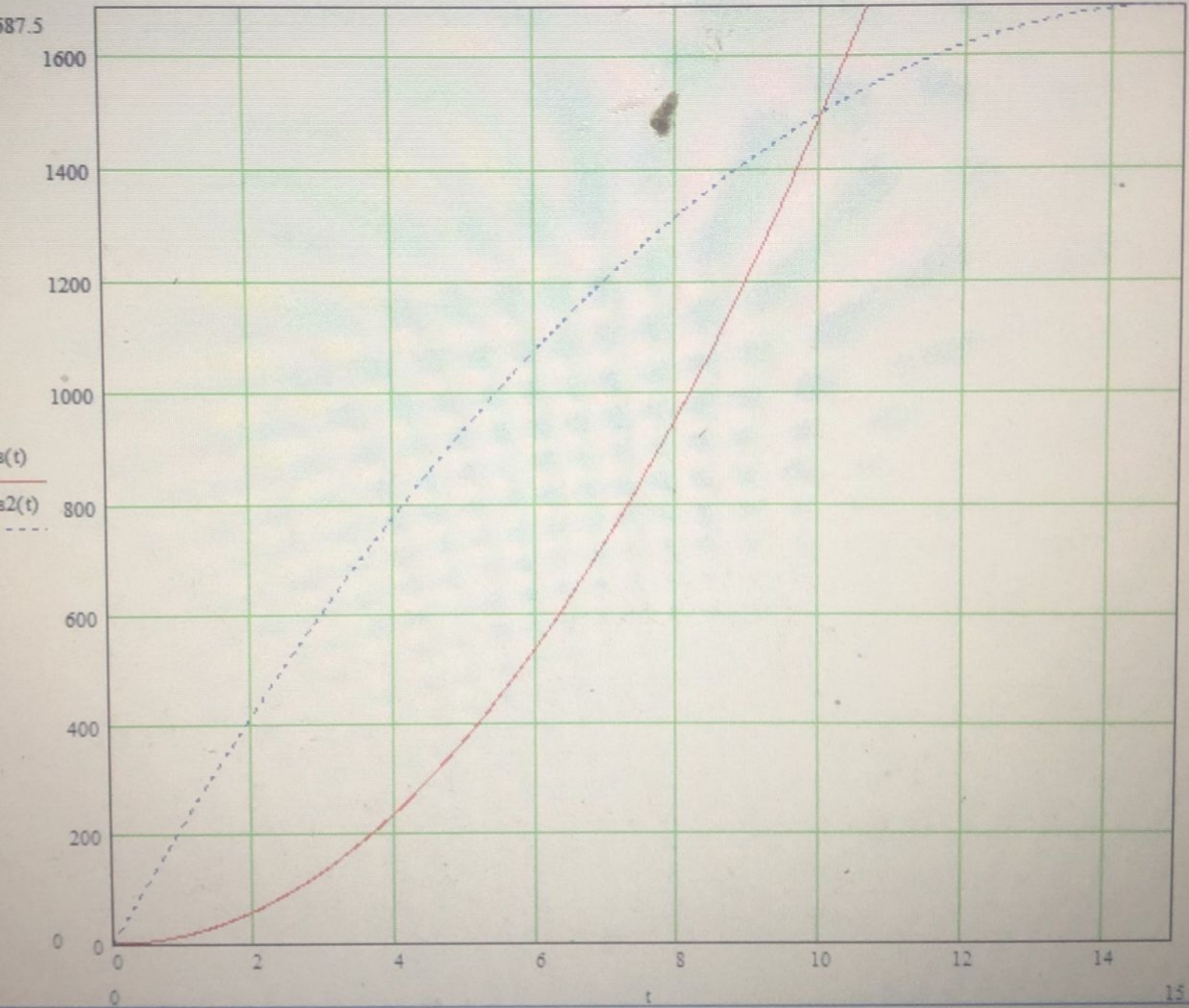


# NUMBER 6

S - T graph

$$s(t) = 15 \cdot t^2$$

$$s_2(t) = -7.5 \cdot t^2 + 225 \cdot t$$



AFOHABI KABIR

PETROLEUM ENGINEERING

18 ENUGO71002

1  $s = 0.5t^3$

$v = \frac{ds}{dt} = 1.5t^2$

When  $t=6$       When  $t=0$

$s = 108$        $s = 0$

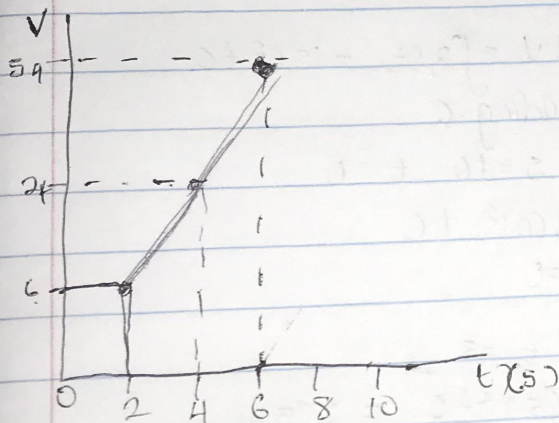
When  $t = 0$

$v = 1.5(0)^2 = 0$

When  $t = 6$

$v = 1.5(6)^2 = 54 \text{ m/s}$

When  $t = 8$  and  $10$



When  $t = 2$

$v = 1.5(2)^2 = 6 \text{ m/s}$

When  $t = 4 \text{ m/s}$

$v = 1.5(4)^2 = 24 \text{ m/s}$

2  $v = 4t + 80$

$s = \int -4t + 80$

$s = -2t^2 + 80t + C$

When  $t=0$ ,  $s=0$

$0 = 0 + 0 + C$

$C = 0$

When  $t = 0$

$s = -2(0)^2 + 80(0) + 0$

$s = 0$

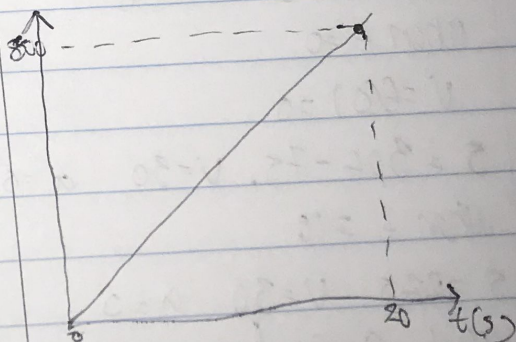
When  $t = 20$

$s = -2(20)^2 + 80(20) + 0$

$s = -800 + 1600 + 0$

$s = 800 \text{ m} \dots$

s-t Graph



Finding a-t graph

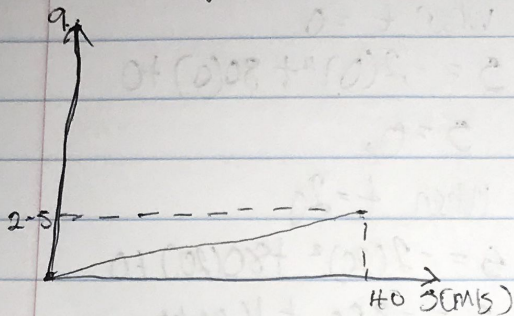
$v = -4t + 80$

$a = \frac{dv}{dt} = -4$

The acceleration is uniform

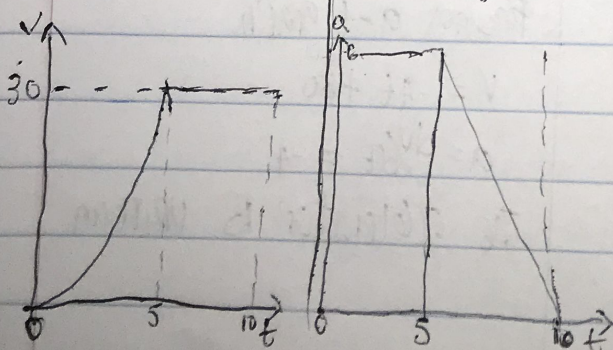
3  $V = 0.25s$   
 $a = V \frac{dv}{ds} = (0.25s) \cdot 0.25$   
 $a = 0.0625s$   
 When  $s = 0$   
 $a = 0$   
 $s = 40$   
 $a = 0.0625(40)$   
 $a = 2.5 \text{ m/s}^2$

$a-s$  graph



4  $t = 5$   
 $s = 3t^2$   $v = 6t$   $a = 6$   
 $v = 6(s) = 30$   $a = 6$   
 when  $t = 0$   
 $v = 6(0) = 0$   
 $s = 30t - 7.5$   $v = 30$   $a = 0$   
 when  $t = 10$   
 $s = 225$   $v = 30$   $a = 0$

$v-t$  graph       $a-t$  graph



5  $a = 20$   $t = 0$   
 $v = \int a = 20t + c$   
 $v = 0$  ,  $t = 0$   
 $c = 0$   
 When  $t = 0$   
 $v = 0$   $a = 10$   
 $t = 5$   
 $v = \int a dt = 10t = -10(5) = -50$   
 when  $t = t'$   
 $a = 0 \therefore v \neq 0$

6  $V = 30t$   
 $s = \int v = \int 30t = 15t^2 + c$   
 finding  $c$   
 when  $s = 10$   $t = 0$   
 $0 = 15(0)^2 + c$   
 $c = 0$

when  $t = 5$   
 $s = 15(5)^2 + 0 = 375 \text{ m}$   
 $v = -15t + 225$   
 when  $s = 0$   $t = 0$   $c = ?$   
 $0 = -7.5(0)^2 + 225(0) + c$   
 $c = 0$

when  $t = 15$   
 $s = 1687.5 \text{ m}$

graph

