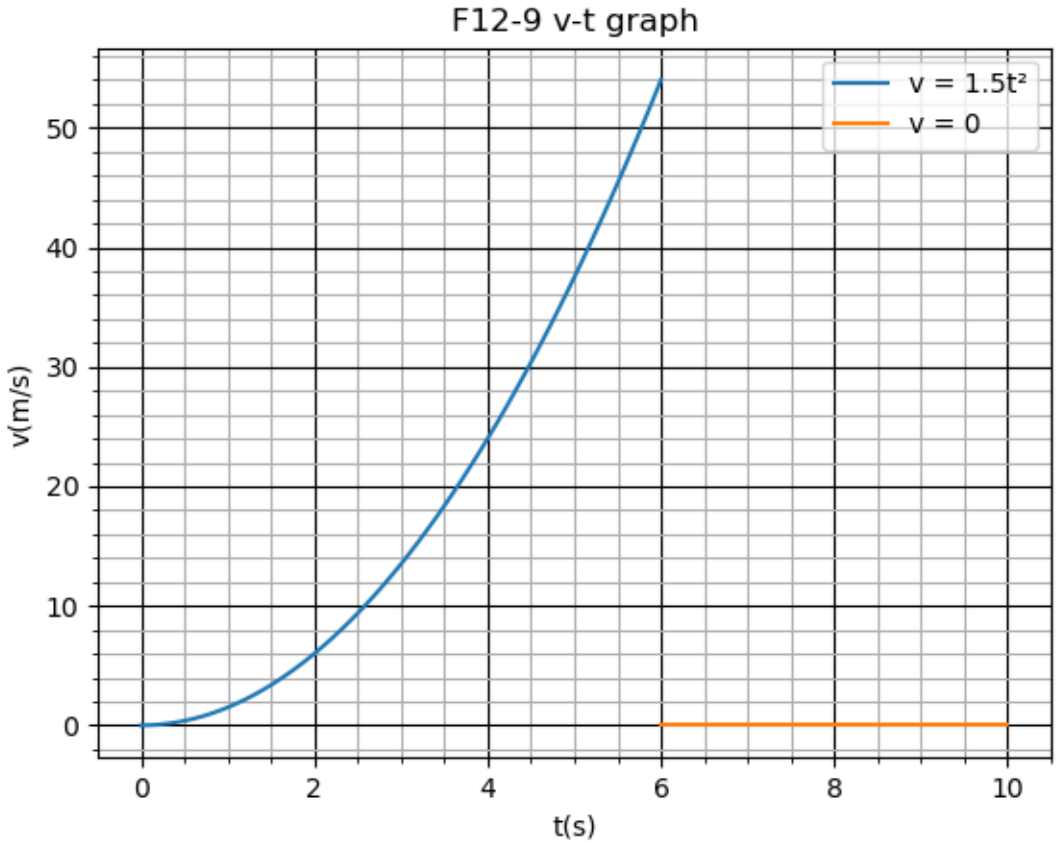
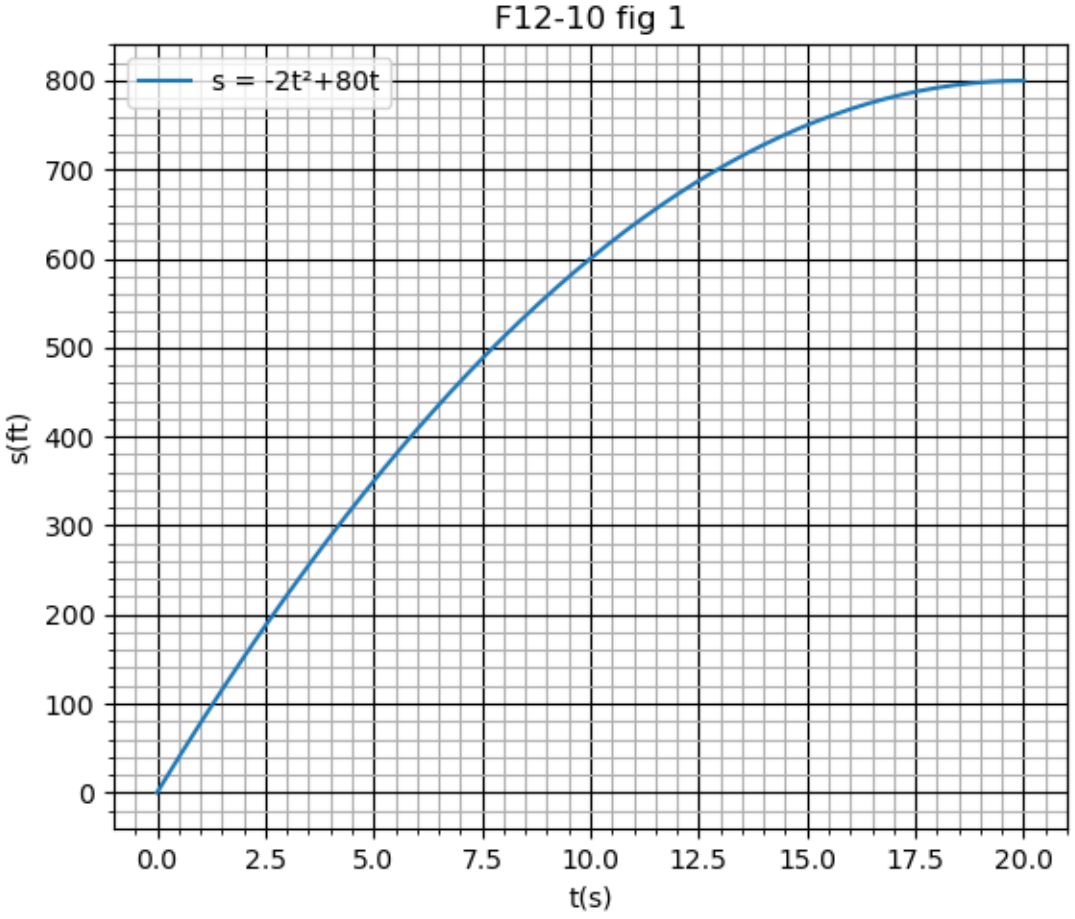
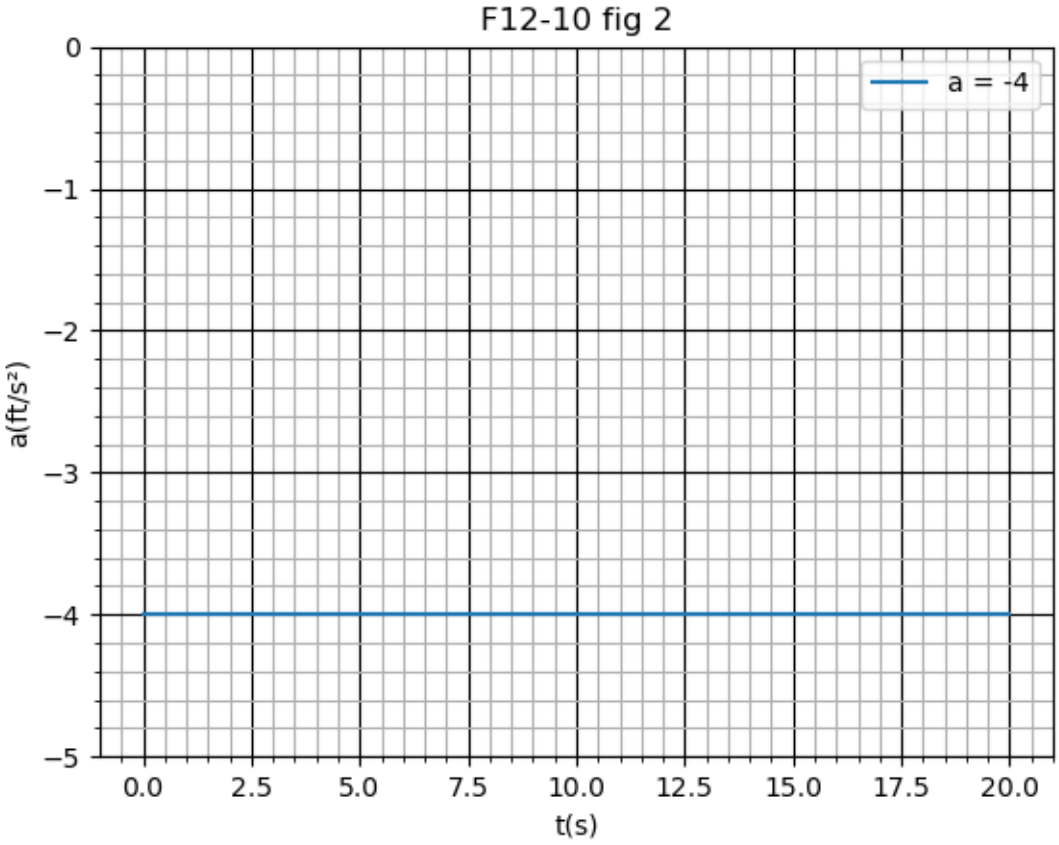
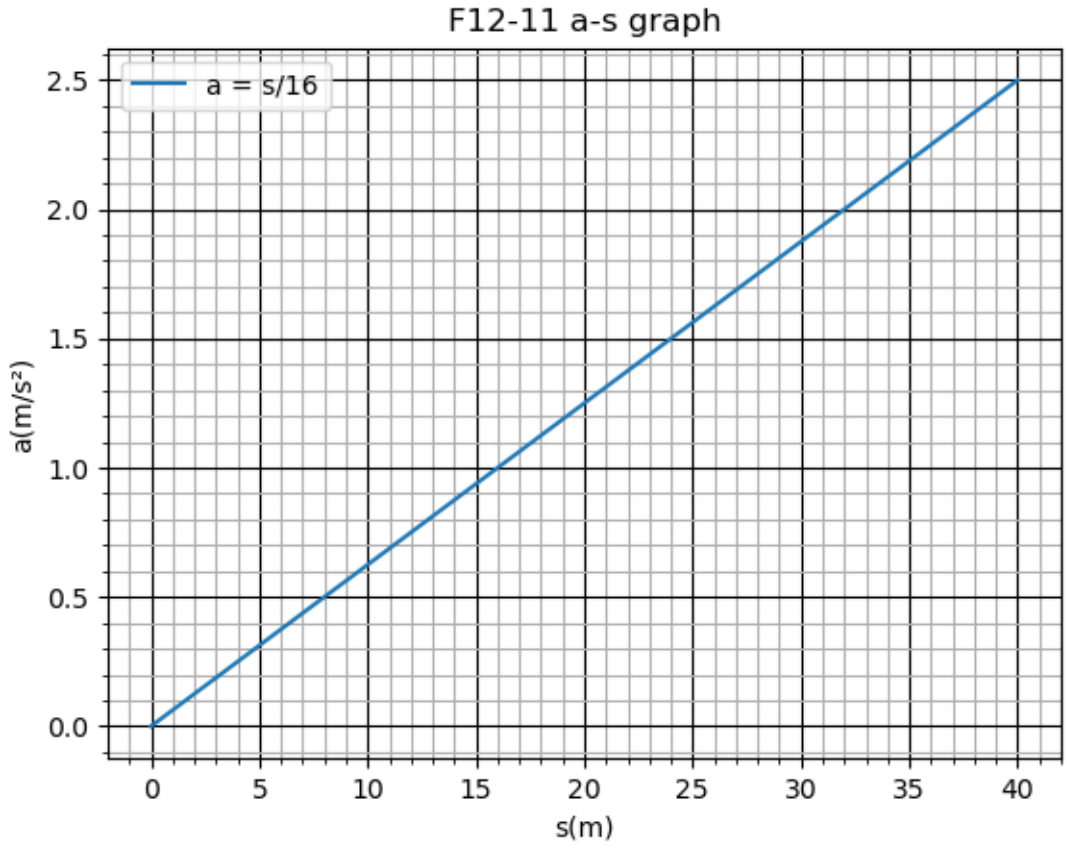
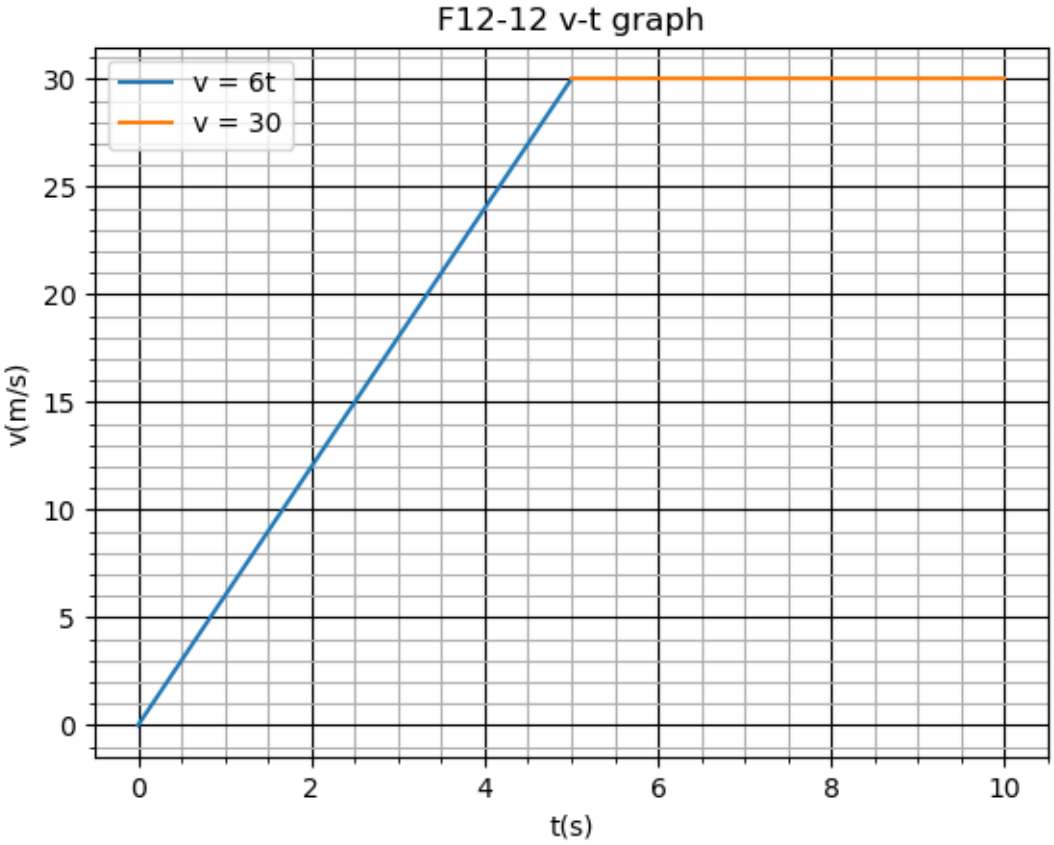
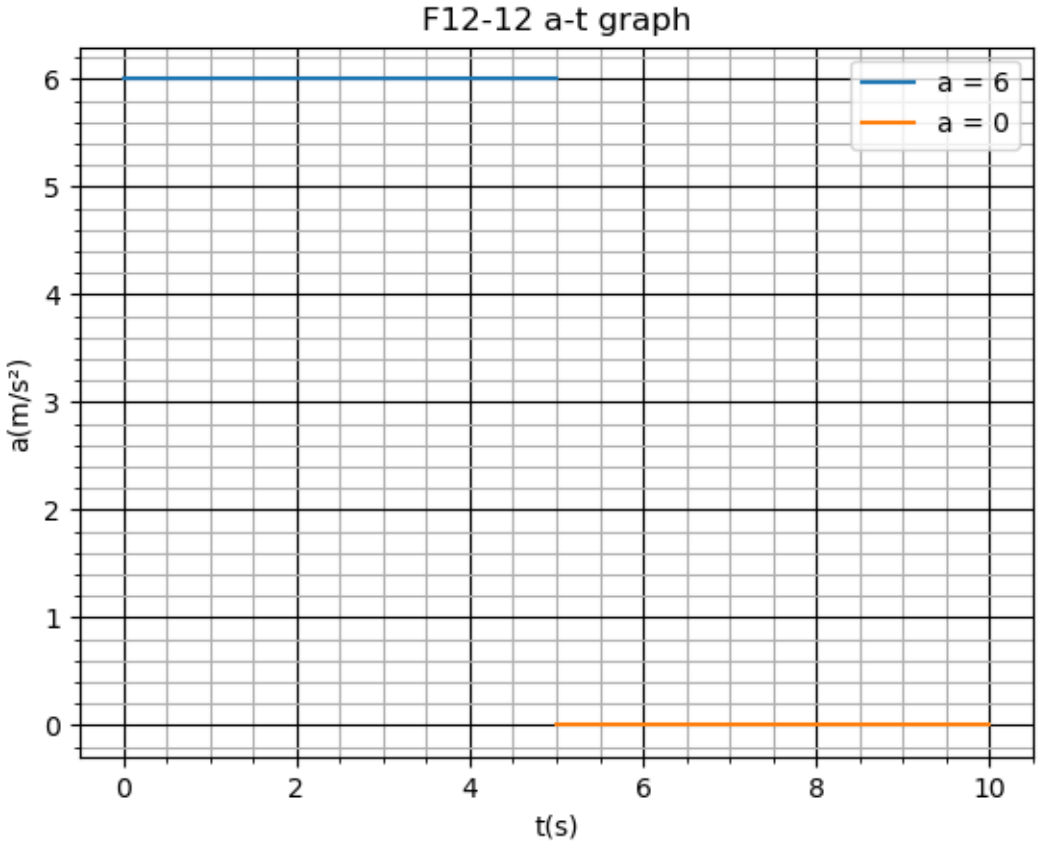

F12-9 v-t graph
v = 1.5t²
v = 0
v(m/s)
t(s)
0
10
20
30
40
50
0
2
4
6
8
10

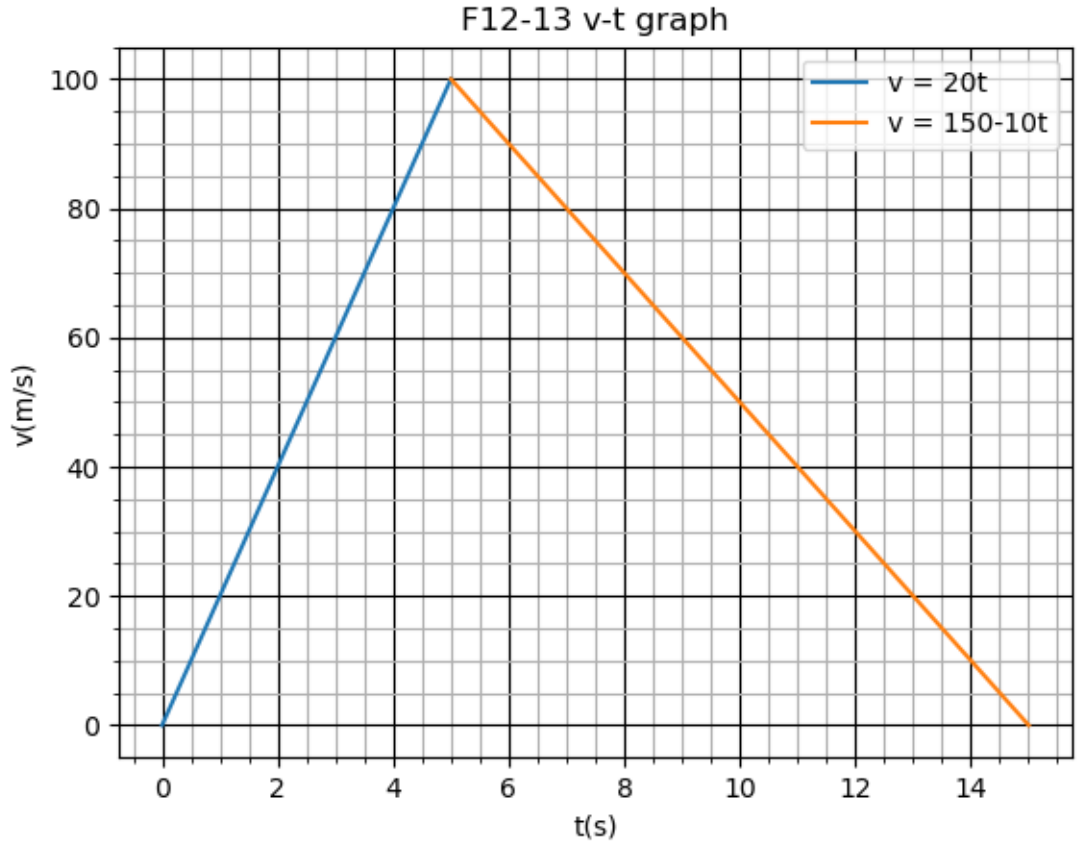

F12-10 fig 1
s = -2t²+80t
s(ft)
t(s)
0
100
200
300
400
500
600
700
800
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0

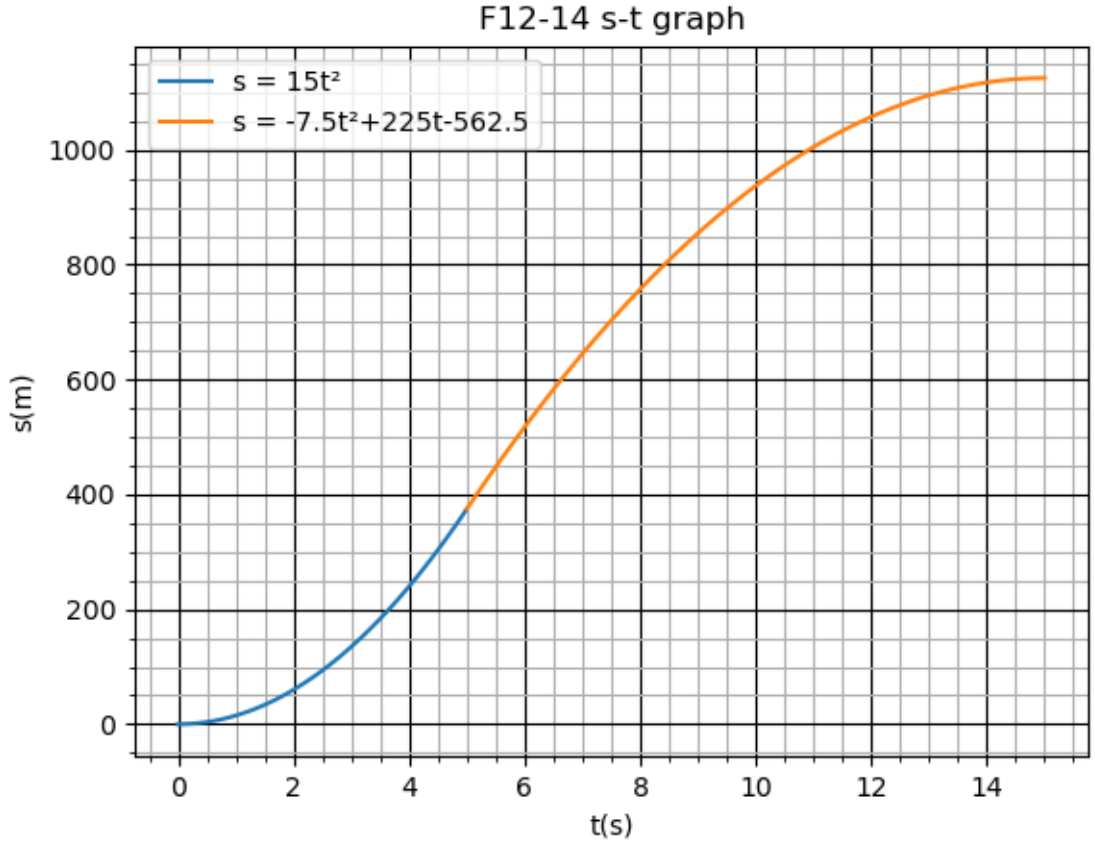

F12-10 fig 2
a = -4
a(ft/s²)
t(s)
0
−1
−2
−3
−4
−5
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0


F12-11 a-s graph
a = s/16
a(m/s²)
s(m)
2.5
2.0
1.5
1.0
0.5
0.0
0
5
10
15
20
25
30
35
40


F12-12 v-t graph
v = 6t
v = 30
v(m/s)
t(s)
0
5
10
15
20
25
30
0
2
4
6
8
10


F12-12 a-t graph
a = 6
a = 0
a(m/s²)
t(s)
0
1
2
3
4
5
6
0
2
4
6
8
10


F12-13 v-t graph
v = 20t
v = 150-10t
v(m/s)
t(s)
0
20
40
60
80
100
0
2
4
6
8
10
12
14


F12-14 s-t graph
s = 15t²
s = -7.5t²+225t-562.5
s(m)
t(s)
0
200
400
600
800
1000
0
2
4
6
8
10
12
14

During the time interval $0 \leq t \leq 15$

$s(15) = -7.5(15)^2 + 225(15) - 562.5$

$= 1125.0\text{m}$ ans