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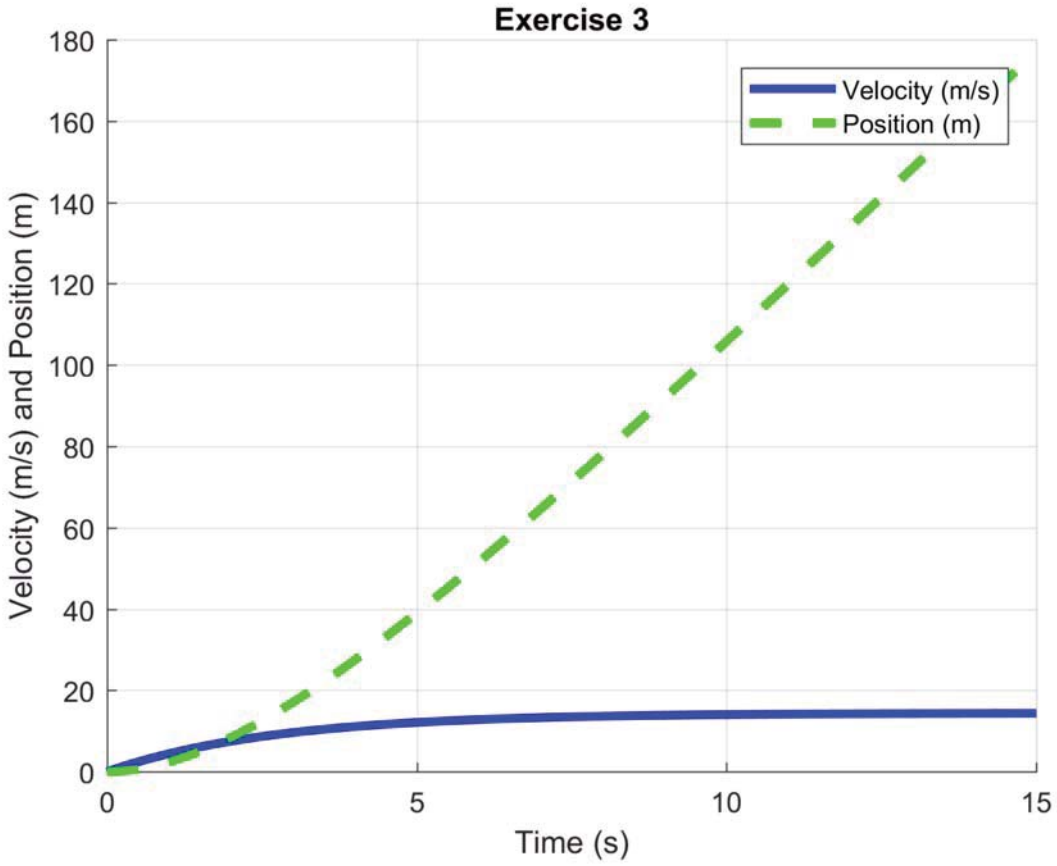
```
syms t; A = 14.4; b = 2.72;
v(t) = A*(1-exp(-t/b));
x1(t) = int(v(t));
x(t) = int(v(t)) - x1(0);

hold on;
fplot(v(t), [0 15], '-b', 'LineWidth', 3);
fplot(x(t), [0 15], '--g', 'LineWidth', 3);
grid on; hold off;
title('Exercise 3');
xlabel('Time (s)'); ylabel('Velocity (m/s) and Position (m)');
legend('Velocity (m/s)', 'Position (m)');
```




```
% How long does it take this runner to reach 100 m?
time_at_100m = solve(x(t)==100);
time_at_100m_approx = eval(time_at_100m);
% Answer = 9.584224248475492 seconds

% What was their instantaneous speed at that time in km/h?
speed_at_100m = v(time_at_100m);
speed_at_100m_approx = eval(speed_at_100m);
inst_speed = speed_at_100m_approx * (0.001/(1/3600));
% Answer = 50.311097441532900 km/h
```

Solved by using "solve" function and set the position function to 0.

Solved by plugging in time at 100m into velocity function and converted that answer from m/s to km/h.