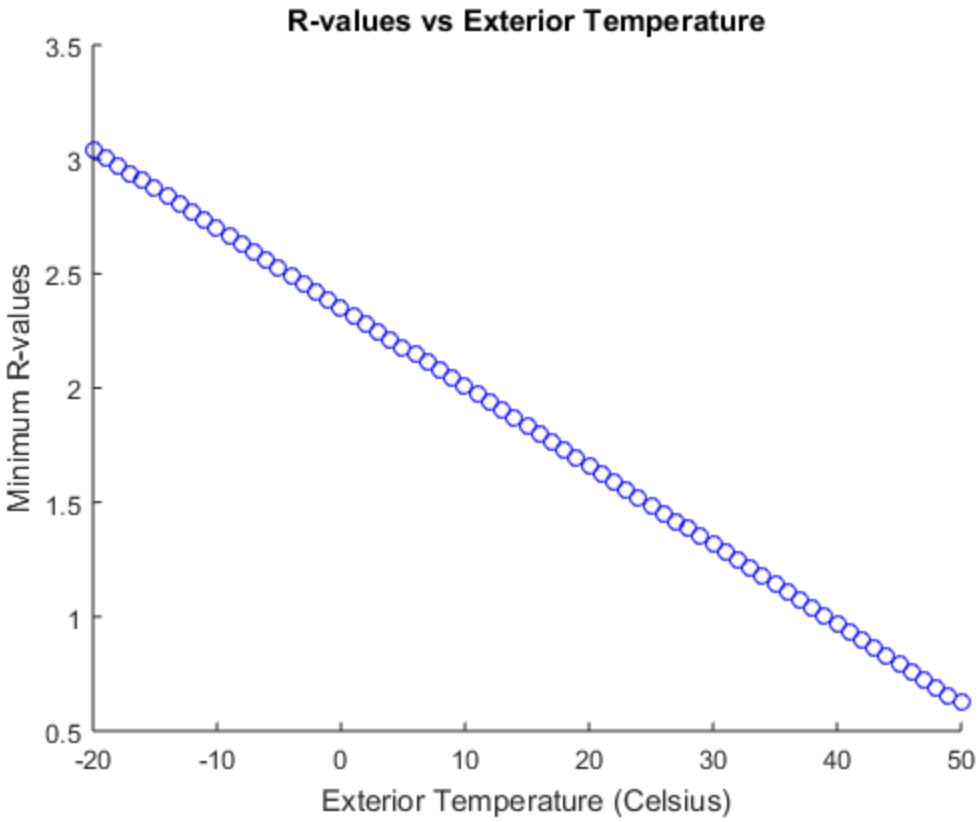
```
function [] = problem8_3()
% function [] = problem8_3()
% Johnathan Schaff ECE 291
Tinterior = 68; %F
Texterior = linspace(-20, 50, 71);%Evenly distributed temperatures
A = 40; %Area of window in square ft
t = 24; %24 hours in one day
totalIncidentEnergy = 1387.666667 * A;%Incident Energy Averaged from
 Table 8.2
Rvalues = ((Tinterior - Texterior).*A.*t)./(totalIncidentEnergy/2);

%Plot Generation
figure()
hold on
for j=1: length(Texterior)
    plot(Texterior(j), Rvalues(j),'ob');
    if mod(j-1,10) == 0
        fprintf('Exterior Temperature: %g | R-value: %g
\n',Texterior(j),Rvalues(j));
    end
end
xlabel('Exterior Temperature (Celsius)');
ylabel('Minimum R-values');
title('R-values vs Exterior Temperature');
end
```

```
Exterior Temperature: -20 | R-value: 3.04396
Exterior Temperature: -10 | R-value: 2.69805
Exterior Temperature: 0 | R-value: 2.35215
Exterior Temperature: 10 | R-value: 2.00625
Exterior Temperature: 20 | R-value: 1.66034
Exterior Temperature: 30 | R-value: 1.31444
Exterior Temperature: 40 | R-value: 0.968532
Exterior Temperature: 50 | R-value: 0.622628
```



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