Compute the peek runoff Q_p for a 15-year storm using the rational method.

The drainage basin is located in Phoenix, AZ

The following parameters are given:

A = 14.06 acres

t_c : Overland flow - avg. grass; 100'; 5% slope

t_c : Shallow conc. - 50' long; 7% slope

Runoff Coefficients:

Impervious	0.06 acres	0.9
Grass	6.5 Acres	0.3
Woods	7.5 Acres	0.2
	14.06 acres	

Note: For AZ IDF curves, a 15-yr storm P_1 value is 1.75" for Phoenix

Express Q in a) cfs + b) cms

t_c = 14 min
I = 4.5 in/hr

$$\text{wt. } C = \frac{(0.06)(0.9) + (6.5)(0.3) + (7.5)(0.2)}{14.06} = \frac{}{14.06}$$

wt. C = 0.25

$$Q = CIA = (0.25)(4.5)(14.06)$$

a) Q_p = 16 cfs

$$\frac{16\ ft^3}{sec} \left| \frac{.02832\ cms}{cfs}\right.$$

b) Q = 0.45 cms