

$$B = 58$$

$$A = 198 + 058 = 256 \text{ km}^2$$

	A	B	C	D	E	F	G	H	I	J	K
P(mm)	66.7	75.8	76.3	75.7	80.7	81.7	82.9	92.3	87.3	91.2	93.5

a) Arithmetic Average,

$$P_{av} = \frac{\sum_{i=1}^N P_i}{N}$$

$$P_{av} = \frac{66.7 + 75.8 + 76.3 + 75.7 + 80.7 + 81.7 + 82.9 + 92.3 + 87.3 + 91.2 + 93.5}{11}$$

$$P_{av} = \frac{904.1}{11}$$

$$P_{av} = \mathbf{82.191 \text{ mm}}$$

b) Thiessen Method,

$$P_{av} = \frac{\sum_{i=1}^N P_i \times A_i}{A}$$

	A	B	C	D	E	F	G	H	I	J	K
Area	15.59	9.87	6.26	39.72	29.03	45.75	7.62	17.48	51.11	17.02	16.55

$$P_{av} = \frac{66.7 \times 15.59 + 75.8 \times 9.87 + 76.3 \times 6.26 + 75.7 \times 39.72 + 80.7 \times 29.03 + 81.7 \times 45.75 + 82.9 \times 7.62 + 92.3 \times 17.48 + 87.3 \times 51.11 + 91.2 \times 17.02 + 93.5 \times 16.55}{256}$$

$$P_{av} = \frac{21159.591}{256}$$

$$P_{av} = \mathbf{82.655 \text{ mm}}$$

c) Isohyetal Method,

$$P_{av} = \frac{\sum_{i=1}^N P_i \times A_i}{A}$$

Isohyet	65-70	70-75	75-80	80-85	85-90	90-95
Area	10.02	36.68	44.70	64.30	53.64	46.66

$$P_{av} = \frac{67.5 \times 10.02 + 72.5 \times 36.68 + 77.5 \times 44.70 + 82.5 \times 64.30 + 87.5 \times 53.64 + 92.5 \times 46.66}{256}$$

$$P_{av} = \frac{21114.2}{256}$$

$$P_{av} = \mathbf{82.477 \text{ mm}}$$

Note: Areas are calculated by the command "area" in AutoCAD.