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Iteration 1:

	A_1	A_4	A_7	Cluster
A_1	0	$\sqrt{37}$	$\sqrt{9}$	1
A_2	$\sqrt{52}$	$\sqrt{53}$	$\sqrt{25}$	3
A_3	$\sqrt{2}$	$\sqrt{53}$	$\sqrt{5}$	1
A_4	$\sqrt{37}$	0	$\sqrt{52}$	2
A_5	$\sqrt{58}$	$\sqrt{73}$	$\sqrt{29}$	3
A_6	$\sqrt{77}$	$\sqrt{7}$	$\sqrt{32}$	2
A_7	$\sqrt{9}$	$\sqrt{52}$	0	3
A_8	$\sqrt{26}$	$\sqrt{5}$	$\sqrt{29}$	2
A_9	$\sqrt{2}$	$\sqrt{29}$	$\sqrt{5}$	1

new centroid point

$$\text{cluster 1: } \frac{A_1 + A_3 + A_9}{3} = (3.67, 8)$$

$$\text{cluster 2: } \frac{A_4 + A_6 + A_8}{3} = (2.67, 3)$$

$$\text{cluster 3: } \frac{A_2 + A_5 + A_7}{3} = (8.33, 9.67)$$

Members

$$C_1 = [A_1, A_3, A_9]$$

$$C_2 = [A_4, A_6, A_8]$$

$$C_3 = [A_2, A_5, A_7]$$

Iteration 2:

A_1	$\sqrt{0}$
A_2	$\sqrt{4}$
A_3	$\sqrt{1}$
A_4	$\sqrt{1}$
A_5	$\sqrt{4}$
A_6	$\sqrt{1}$
A_7	$\sqrt{1}$
A_8	
A_9	

new cen

Cluster

Cluster

cluster

Mem

$C_1 =$

$C_2 =$

$C_3 =$

Iteration 2: $C_1 = (3.57, 8)$ $C_2 = (2.67, 3)$ $C_3 = (8.33, 5.67)$

	C_1	C_2	C_3	Cluster
A_1	$\sqrt{0.45}$	$\sqrt{25.11}$	$\sqrt{33.84}$	1
A_2	$\sqrt{44.40}$	$\sqrt{41.07}$	$\sqrt{3.24}$	3
A_3	$\sqrt{1.11}$	$\sqrt{37.77}$	$\sqrt{29.84}$	1
A_4	$\sqrt{38.79}$	$\sqrt{1.45}$	$\sqrt{53.53}$	2
A_5	$\sqrt{49.07}$	$\sqrt{57.73}$	$\sqrt{3.24}$	3
A_6	$\sqrt{18.79}$	$\sqrt{1.45}$	$\sqrt{42.86}$	2
A_7	$\sqrt{5.43}$	$\sqrt{36.09}$	$\sqrt{10.86}$	1
A_8	$\sqrt{25.10}$	$\sqrt{1.77}$	$\sqrt{25.87}$	2
A_9	$\sqrt{1.70}$	$\sqrt{77.76}$	$\sqrt{20.51}$	1

new centroid point

$$\text{Cluster 1: } \frac{A_1 + A_3 + A_7 + A_9}{4} = (4.25, 8)$$

$$\text{Cluster 2: } \frac{A_4 + A_6 + A_8}{3} = (2.67, 3)$$

$$\text{Cluster 3: } \frac{A_2 + A_5}{2} = (9.5, 4.5)$$

Members

$$C_1 = [A_1, A_3, A_7, A_9]$$

$$C_2 = [A_4, A_6, A_8]$$

$$C_3 = [A_2, A_5]$$

Iteration 3: $C_1 = (4.25, 8)$ $C_2 = (2.67, 3)$ $C_3 = (9.5, 4)$

	C_1	C_2	C_3	Cluster
A_1	$\sqrt{7.56}$	$\sqrt{25.11}$	$\sqrt{54.50}$	1
A_2	$\sqrt{38.56}$	$\sqrt{41.07}$	$\sqrt{0.5}$	3
A_3	$\sqrt{7.06}$	$\sqrt{37.77}$	$\sqrt{50.5}$	1
A_4	$\sqrt{41.06}$	$\sqrt{1.45}$	$\sqrt{62.5}$	2
A_5	$\sqrt{42.06}$	$\sqrt{57.73}$	$\sqrt{0.5}$	3
A_6	$\sqrt{21.06}$	$\sqrt{1.45}$	$\sqrt{56.5}$	2
A_7	$\sqrt{3.06}$	$\sqrt{36.09}$	$\sqrt{24.5}$	1
A_8	$\sqrt{25.06}$	$\sqrt{1.77}$	$\sqrt{32.5}$	2
A_9	$\sqrt{1.06}$	$\sqrt{17.77}$	$\sqrt{36.5}$	1

We have same new centroid point because we have same members in all cluster