

	D		C		A		B
	C		D		A		B

A	A		B				B
	D		C				
	C		D				

2B
7B
14A

✓

A	A						
	D		B				
	C		B		C		D

5C
8D
9B

✓

	A		B		C		D
	A		B		C		D

8D
7C
6A

✓

$$\left. \begin{array}{l} 9 + 9 = 18B \\ 14 + 6 = 20A \\ 5 + 7 = 12C \\ 8 + 8 = 16D \end{array} \right\}$$

17400

A=1
B=10
C=100
D=1000

A = 1

B = 10

C = 100

D = 1000

	D		C		A		B
	D		C		B		A
	D		B		A		C
	C		D		A		B

$$\min = 42D + 30C + 32B + 38A = \boxed{45358} \min$$

B	A					B	C	3B
			C		A			3A
			C		B		D	5C
			B		A		D	5B
	C		D		A		D	33D

✓

B	B					C	B	C	9C
	A		C						5A
	A		C				D		8A
	A		B				D		7B
	A		D				D		48A

✓

B	B					B	C
	A						
	A				C	D	
	A	B			C	D	
	A	D			C	D	

17C

✓

9B
9A
5C
5B
33D

B	B						C
	A					D	
	A				C	D	
	A	B			C	D	
	A	B			C	D	

4B

9D

13B

✓

9C
5A
8A
7B
18A

A		B		C		D	
A		B		C		D	
A		B		C		D	
A		B		C		D	

10B

5C

✓

$$9 + 5 + 7 + 17 + 10 = 48B$$

$$9 + 13 + 18 = 40A$$

$$5 + 9 + 17 + 5 = 36C$$

$$33 + 9 = 42D$$

46120