```mathematica
In[43]:= BasisAArrow[1] = {Diag[ar[1, 2]], Diag[ar[2, 1]]};

In[44]:= BasisAArrow[2] = {Diag[ar[1, 3], ar[4, 2]],
        Diag[ar[2, 4], ar[3, 1]], Diag[ar[3, 1], ar[4, 2]], Diag[ar[1, 4], ar[2, 3]],
        Diag[ar[1, 4], ar[3, 2]], Diag[ar[2, 3], ar[4, 1]], Diag[ar[3, 2], ar[4, 1]]};

In[45]:= BasisAArrow[3] = {Diag[ar[4, 1], ar[5, 3], ar[6, 2]],
        Diag[ar[1, 5], ar[3, 6], ar[4, 2]], Diag[ar[1, 5], ar[4, 2], ar[6, 3]],
        Diag[ar[3, 2], ar[4, 6], ar[5, 1]], Diag[ar[3, 2], ar[5, 1], ar[6, 4]],
        Diag[ar[2, 4], ar[3, 6], ar[5, 1]], Diag[ar[2, 4], ar[5, 1], ar[6, 3]],
        Diag[ar[3, 6], ar[4, 2], ar[5, 1]], Diag[ar[4, 2], ar[5, 1], ar[6, 3]],
        Diag[ar[2, 6], ar[3, 4], ar[5, 1]], Diag[ar[2, 6], ar[4, 3], ar[5, 1]],
        Diag[ar[3, 4], ar[5, 1], ar[6, 2]], Diag[ar[4, 3], ar[5, 1], ar[6, 2]],
        Diag[ar[1, 6], ar[2, 4], ar[5, 3]], Diag[ar[1, 6], ar[3, 5], ar[4, 2]],
        Diag[ar[1, 6], ar[4, 2], ar[5, 3]], Diag[ar[1, 6], ar[2, 5], ar[3, 4]],
        Diag[ar[1, 6], ar[2, 5], ar[4, 3]], Diag[ar[1, 6], ar[3, 4], ar[5, 2]],
        Diag[ar[1, 6], ar[4, 3], ar[5, 2]], Diag[ar[2, 4], ar[5, 3], ar[6, 1]],
        Diag[ar[3, 5], ar[4, 2], ar[6, 1]], Diag[ar[4, 2], ar[5, 3], ar[6, 1]],
        Diag[ar[2, 5], ar[3, 4], ar[6, 1]], Diag[ar[2, 5], ar[4, 3], ar[6, 1]],
        Diag[ar[3, 4], ar[5, 2], ar[6, 1]], Diag[ar[4, 3], ar[5, 2], ar[6, 1]]};

In[46]:= BasisAArrow[4] = {Diag[ar[5, 1], ar[6, 4], ar[7, 3], ar[8, 2]],
        Diag[ar[3, 2], ar[6, 1], ar[7, 5], ar[8, 4]], Diag[ar[4, 2], ar[6, 1],
         ar[7, 5], ar[8, 3]], Diag[ar[4, 7], ar[5, 2], ar[6, 1], ar[8, 3]],
        Diag[ar[5, 2], ar[6, 1], ar[7, 4], ar[8, 3]], Diag[ar[4, 3], ar[6, 1],
         ar[7, 5], ar[8, 2]], Diag[ar[4, 7], ar[5, 3], ar[6, 1], ar[8, 2]],
        Diag[ar[5, 3], ar[6, 1], ar[7, 4], ar[8, 2]], Diag[ar[4, 5], ar[6, 1],
         ar[7, 3], ar[8, 2]], Diag[ar[5, 4], ar[6, 1], ar[7, 3], ar[8, 2]],
        Diag[ar[1, 7], ar[4, 2], ar[6, 3], ar[8, 5]], Diag[ar[1, 7], ar[3, 6],
         ar[4, 8], ar[5, 2]], Diag[ar[1, 7], ar[3, 6], ar[5, 2], ar[8, 4]],
        Diag[ar[1, 7], ar[5, 2], ar[6, 3], ar[8, 4]], Diag[ar[1, 7], ar[3, 8],
         ar[5, 2], ar[6, 4]], Diag[ar[1, 7], ar[5, 2], ar[6, 4], ar[8, 3]],
        Diag[ar[1, 7], ar[2, 6], ar[5, 3], ar[8, 4]], Diag[ar[1, 7], ar[4, 3],
         ar[6, 2], ar[8, 5]], Diag[ar[1, 7], ar[3, 5], ar[4, 8], ar[6, 2]],
        Diag[ar[1, 7], ar[3, 5], ar[6, 2], ar[8, 4]], Diag[ar[1, 7], ar[4, 8],
         ar[5, 3], ar[6, 2]], Diag[ar[1, 7], ar[5, 3], ar[6, 2], ar[8, 4]],
        Diag[ar[1, 7], ar[3, 8], ar[4, 5], ar[6, 2]], Diag[ar[1, 7], ar[3, 8],
         ar[5, 4], ar[6, 2]], Diag[ar[1, 7], ar[4, 5], ar[6, 2], ar[8, 3]],
        Diag[ar[1, 7], ar[5, 4], ar[6, 2], ar[8, 3]], Diag[ar[1, 7], ar[2, 8],
         ar[5, 3], ar[6, 4]], Diag[ar[1, 7], ar[2, 8], ar[5, 4], ar[6, 3]],
        Diag[ar[1, 7], ar[3, 5], ar[6, 4], ar[8, 2]], Diag[ar[1, 7], ar[4, 6],
         ar[5, 3], ar[8, 2]], Diag[ar[1, 7], ar[5, 3], ar[6, 4], ar[8, 2]],
        Diag[ar[1, 7], ar[5, 4], ar[6, 3], ar[8, 2]], Diag[ar[3, 2], ar[4, 8],
         ar[6, 5], ar[7, 1]], Diag[ar[3, 2], ar[6, 5], ar[7, 1], ar[8, 4]],
        Diag[ar[4, 2], ar[5, 3], ar[6, 8], ar[7, 1]], Diag[ar[4, 2], ar[5, 3],
         ar[7, 1], ar[8, 6]], Diag[ar[4, 2], ar[5, 8], ar[6, 3], ar[7, 1]],
        Diag[ar[4, 2], ar[6, 3], ar[7, 1], ar[8, 5]], Diag[ar[2, 5], ar[4, 8],
         ar[6, 3], ar[7, 1]], Diag[ar[2, 5], ar[6, 3], ar[7, 1], ar[8, 4]],
        Diag[ar[3, 4], ar[5, 2], ar[6, 8], ar[7, 1]], Diag[ar[3, 4], ar[5, 2],
         ar[7, 1], ar[8, 6]], Diag[ar[4, 3], ar[5, 2], ar[6, 8], ar[7, 1]],
        Diag[ar[4, 3], ar[5, 2], ar[7, 1], ar[8, 6]], Diag[ar[3, 6], ar[4, 8],
         ar[5, 2], ar[7, 1]], Diag[ar[3, 6], ar[5, 2], ar[7, 1], ar[8, 4]],
        Diag[ar[4, 8], ar[5, 2], ar[6, 3], ar[7, 1]], Diag[ar[5, 2], ar[6, 3],
```

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  ar[7, 1], ar[8, 4]], Diag[ar[3, 8], ar[4, 6], ar[5, 2], ar[7, 1]],
 Diag[ar[3, 8], ar[5, 2], ar[6, 4], ar[7, 1]], Diag[ar[4, 6], ar[5, 2],
  ar[7, 1], ar[8, 3]], Diag[ar[5, 2], ar[6, 4], ar[7, 1], ar[8, 3]],
 Diag[ar[2, 6], ar[4, 3], ar[5, 8], ar[7, 1]], Diag[ar[2, 6], ar[4, 3],
  ar[7, 1], ar[8, 5]], Diag[ar[2, 6], ar[3, 5], ar[4, 8], ar[7, 1]],
 Diag[ar[2, 6], ar[3, 5], ar[7, 1], ar[8, 4]], Diag[ar[2, 6], ar[4, 8],
  ar[5, 3], ar[7, 1]], Diag[ar[2, 6], ar[5, 3], ar[7, 1], ar[8, 4]],
 Diag[ar[2, 6], ar[3, 8], ar[5, 4], ar[7, 1]], Diag[ar[2, 6], ar[4, 5],
  ar[7, 1], ar[8, 3]], Diag[ar[2, 6], ar[5, 4], ar[7, 1], ar[8, 3]],
 Diag[ar[4, 3], ar[5, 8], ar[6, 2], ar[7, 1]], Diag[ar[4, 3], ar[6, 2],
  ar[7, 1], ar[8, 5]], Diag[ar[3, 5], ar[4, 8], ar[6, 2], ar[7, 1]],
 Diag[ar[3, 5], ar[6, 2], ar[7, 1], ar[8, 4]], Diag[ar[4, 8], ar[5, 3],
  ar[6, 2], ar[7, 1]], Diag[ar[5, 3], ar[6, 2], ar[7, 1], ar[8, 4]],
 Diag[ar[3, 8], ar[4, 5], ar[6, 2], ar[7, 1]], Diag[ar[3, 8], ar[5, 4],
  ar[6, 2], ar[7, 1]], Diag[ar[4, 5], ar[6, 2], ar[7, 1], ar[8, 3]],
 Diag[ar[5, 4], ar[6, 2], ar[7, 1], ar[8, 3]], Diag[ar[2, 8], ar[3, 5],
  ar[6, 4], ar[7, 1]], Diag[ar[2, 8], ar[4, 6], ar[5, 3], ar[7, 1]],
 Diag[ar[2, 8], ar[5, 3], ar[6, 4], ar[7, 1]], Diag[ar[2, 8], ar[3, 6],
  ar[4, 5], ar[7, 1]], Diag[ar[2, 8], ar[3, 6], ar[5, 4], ar[7, 1]],
 Diag[ar[2, 8], ar[4, 5], ar[6, 3], ar[7, 1]], Diag[ar[2, 8], ar[5, 4],
  ar[6, 3], ar[7, 1]], Diag[ar[3, 5], ar[6, 4], ar[7, 1], ar[8, 2]],
 Diag[ar[4, 6], ar[5, 3], ar[7, 1], ar[8, 2]], Diag[ar[5, 3], ar[6, 4],
  ar[7, 1], ar[8, 2]], Diag[ar[3, 6], ar[4, 5], ar[7, 1], ar[8, 2]],
 Diag[ar[3, 6], ar[5, 4], ar[7, 1], ar[8, 2]], Diag[ar[4, 5], ar[6, 3],
  ar[7, 1], ar[8, 2]], Diag[ar[5, 4], ar[6, 3], ar[7, 1], ar[8, 2]],
 Diag[ar[1, 8], ar[5, 2], ar[6, 4], ar[7, 3]], Diag[ar[1, 8], ar[2, 6],
  ar[4, 7], ar[5, 3]], Diag[ar[1, 8], ar[2, 6], ar[5, 3], ar[7, 4]],
 Diag[ar[1, 8], ar[4, 3], ar[5, 7], ar[6, 2]], Diag[ar[1, 8], ar[4, 3],
  ar[6, 2], ar[7, 5]], Diag[ar[1, 8], ar[3, 5], ar[4, 7], ar[6, 2]],
 Diag[ar[1, 8], ar[3, 5], ar[6, 2], ar[7, 4]], Diag[ar[1, 8], ar[4, 7],
  ar[5, 3], ar[6, 2]], Diag[ar[1, 8], ar[5, 3], ar[6, 2], ar[7, 4]],
 Diag[ar[1, 8], ar[3, 7], ar[4, 5], ar[6, 2]], Diag[ar[1, 8], ar[3, 7],
  ar[5, 4], ar[6, 2]], Diag[ar[1, 8], ar[4, 5], ar[6, 2], ar[7, 3]],
 Diag[ar[1, 8], ar[5, 4], ar[6, 2], ar[7, 3]], Diag[ar[1, 8], ar[2, 7],
  ar[3, 5], ar[6, 4]], Diag[ar[1, 8], ar[2, 7], ar[4, 6], ar[5, 3]],
 Diag[ar[1, 8], ar[2, 7], ar[5, 3], ar[6, 4]], Diag[ar[1, 8], ar[2, 7],
  ar[3, 6], ar[4, 5]], Diag[ar[1, 8], ar[2, 7], ar[3, 6], ar[5, 4]],
 Diag[ar[1, 8], ar[2, 7], ar[4, 5], ar[6, 3]], Diag[ar[1, 8], ar[2, 7],
  ar[5, 4], ar[6, 3]], Diag[ar[1, 8], ar[3, 5], ar[6, 4], ar[7, 2]],
 Diag[ar[1, 8], ar[4, 6], ar[5, 3], ar[7, 2]], Diag[ar[1, 8], ar[5, 3],
  ar[6, 4], ar[7, 2]], Diag[ar[1, 8], ar[3, 6], ar[4, 5], ar[7, 2]],
 Diag[ar[1, 8], ar[3, 6], ar[5, 4], ar[7, 2]], Diag[ar[1, 8], ar[4, 5],
  ar[6, 3], ar[7, 2]], Diag[ar[1, 8], ar[5, 4], ar[6, 3], ar[7, 2]],
 Diag[ar[5, 2], ar[6, 4], ar[7, 3], ar[8, 1]], Diag[ar[2, 6], ar[4, 7],
  ar[5, 3], ar[8, 1]], Diag[ar[2, 6], ar[5, 3], ar[7, 4], ar[8, 1]],
 Diag[ar[4, 3], ar[5, 7], ar[6, 2], ar[8, 1]], Diag[ar[4, 3], ar[6, 2],
  ar[7, 5], ar[8, 1]], Diag[ar[3, 5], ar[4, 7], ar[6, 2], ar[8, 1]],
 Diag[ar[3, 5], ar[6, 2], ar[7, 4], ar[8, 1]], Diag[ar[4, 7], ar[5, 3],
  ar[6, 2], ar[8, 1]], Diag[ar[5, 3], ar[6, 2], ar[7, 4], ar[8, 1]],
 Diag[ar[3, 7], ar[4, 5], ar[6, 2], ar[8, 1]], Diag[ar[3, 7], ar[5, 4],
  ar[6, 2], ar[8, 1]], Diag[ar[4, 5], ar[6, 2], ar[7, 3], ar[8, 1]],
 Diag[ar[5, 4], ar[6, 2], ar[7, 3], ar[8, 1]], Diag[ar[2, 7], ar[3, 5],
```

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        ar[6, 4], ar[8, 1]], Diag[ar[2, 7], ar[4, 6], ar[5, 3], ar[8, 1]],
      Diag[ar[2, 7], ar[5, 3], ar[6, 4], ar[8, 1]], Diag[ar[2, 7], ar[3, 6],
        ar[4, 5], ar[8, 1]], Diag[ar[2, 7], ar[3, 6], ar[5, 4], ar[8, 1]],
      Diag[ar[2, 7], ar[4, 5], ar[6, 3], ar[8, 1]], Diag[ar[2, 7], ar[5, 4],
        ar[6, 3], ar[8, 1]], Diag[ar[3, 5], ar[6, 4], ar[7, 2], ar[8, 1]],
      Diag[ar[4, 6], ar[5, 3], ar[7, 2], ar[8, 1]], Diag[ar[5, 3], ar[6, 4],
        ar[7, 2], ar[8, 1]], Diag[ar[3, 6], ar[4, 5], ar[7, 2], ar[8, 1]],
      Diag[ar[3, 6], ar[5, 4], ar[7, 2], ar[8, 1]], Diag[ar[4, 5], ar[6, 3],
        ar[7, 2], ar[8, 1]], Diag[ar[5, 4], ar[6, 3], ar[7, 2], ar[8, 1]]};
```

In[47]:= `Rels[2] = {Diag[ar[1, 2], ar[3, 4]] + Diag[ar[1, 3], ar[2, 4]] - 2 Diag[ar[1, 4], ar[2, 3]],`
```
      Diag[ar[1, 2], ar[4, 3]] - Diag[ar[1, 3], ar[2, 4]] + Diag[ar[1, 4], ar[2, 3]] -
        Diag[ar[1, 4], ar[3, 2]], -Diag[ar[1, 3], ar[2, 4]] +
        Diag[ar[1, 4], ar[2, 3]] - Diag[ar[1, 4], ar[3, 2]] + Diag[ar[2, 1], ar[3, 4]],
      -Diag[ar[2, 1], ar[3, 4]] + Diag[ar[2, 3], ar[4, 1]] + Diag[ar[3, 1], ar[4, 2]] -
        Diag[ar[3, 2], ar[4, 1]], -Diag[ar[1, 2], ar[4, 3]] +
        Diag[ar[2, 3], ar[4, 1]] + Diag[ar[3, 1], ar[4, 2]] - Diag[ar[3, 2], ar[4, 1]],
      -Diag[ar[2, 1], ar[4, 3]] - Diag[ar[3, 1], ar[4, 2]] + 2 Diag[ar[3, 2], ar[4, 1]]};
```

In[48]:= `Rels[3] = {Diag[ar[1, 2], ar[3, 4], ar[5, 6]] +`
```
        Diag[ar[1, 2], ar[3, 5], ar[4, 6]] - 2 Diag[ar[1, 2], ar[3, 6], ar[4, 5]],
      Diag[ar[1, 2], ar[3, 4], ar[6, 5]] - Diag[ar[1, 2], ar[3, 5], ar[4, 6]] +
        Diag[ar[1, 2], ar[3, 6], ar[4, 5]] - Diag[ar[1, 2], ar[3, 6], ar[5, 4]],
      -Diag[ar[1, 2], ar[3, 5], ar[4, 6]] + Diag[ar[1, 2], ar[3, 6], ar[4, 5]] -
        Diag[ar[1, 2], ar[3, 6], ar[5, 4]] + Diag[ar[1, 2], ar[4, 3], ar[5, 6]],
      -Diag[ar[1, 2], ar[4, 3], ar[5, 6]] + Diag[ar[1, 2], ar[4, 5], ar[6, 3]] +
        Diag[ar[1, 2], ar[5, 3], ar[6, 4]] - Diag[ar[1, 2], ar[5, 4], ar[6, 3]],
      -Diag[ar[1, 2], ar[3, 4], ar[6, 5]] + Diag[ar[1, 2], ar[4, 5], ar[6, 3]] +
        Diag[ar[1, 2], ar[5, 3], ar[6, 4]] - Diag[ar[1, 2], ar[5, 4], ar[6, 3]],
      -Diag[ar[1, 2], ar[4, 3], ar[6, 5]] - Diag[ar[1, 2], ar[5, 3], ar[6, 4]] +
        2 Diag[ar[1, 2], ar[5, 4], ar[6, 3]], Diag[ar[2, 1], ar[3, 4], ar[5, 6]] +
        Diag[ar[2, 1], ar[3, 5], ar[4, 6]] - 2 Diag[ar[2, 1], ar[3, 6], ar[4, 5]],
      Diag[ar[2, 1], ar[3, 4], ar[6, 5]] - Diag[ar[2, 1], ar[3, 5], ar[4, 6]] +
        Diag[ar[2, 1], ar[3, 6], ar[4, 5]] - Diag[ar[2, 1], ar[3, 6], ar[5, 4]],
      -Diag[ar[2, 1], ar[3, 5], ar[4, 6]] + Diag[ar[2, 1], ar[3, 6], ar[4, 5]] -
        Diag[ar[2, 1], ar[3, 6], ar[5, 4]] + Diag[ar[2, 1], ar[4, 3], ar[5, 6]],
      -Diag[ar[2, 1], ar[4, 3], ar[5, 6]] + Diag[ar[2, 1], ar[4, 5], ar[6, 3]] +
        Diag[ar[2, 1], ar[5, 3], ar[6, 4]] - Diag[ar[2, 1], ar[5, 4], ar[6, 3]],
      -Diag[ar[2, 1], ar[3, 4], ar[6, 5]] + Diag[ar[2, 1], ar[4, 5], ar[6, 3]] +
        Diag[ar[2, 1], ar[5, 3], ar[6, 4]] - Diag[ar[2, 1], ar[5, 4], ar[6, 3]],
      -Diag[ar[2, 1], ar[4, 3], ar[6, 5]] - Diag[ar[2, 1], ar[5, 3], ar[6, 4]] +
        2 Diag[ar[2, 1], ar[5, 4], ar[6, 3]],
      Diag[ar[1, 3], ar[2, 4], ar[5, 6]] - Diag[ar[1, 3], ar[2, 6], ar[4, 5]] +
        Diag[ar[1, 4], ar[2, 5], ar[3, 6]] - Diag[ar[1, 4], ar[2, 6], ar[3, 5]],
      Diag[ar[1, 3], ar[2, 4], ar[6, 5]] - Diag[ar[1, 3], ar[2, 6], ar[5, 4]] -
        Diag[ar[1, 4], ar[2, 5], ar[3, 6]] + Diag[ar[1, 4], ar[2, 6], ar[3, 5]],
      -Diag[ar[1, 3], ar[2, 5], ar[4, 6]] + Diag[ar[1, 3], ar[2, 6], ar[4, 5]] +
        Diag[ar[1, 3], ar[4, 2], ar[5, 6]] - Diag[ar[1, 3], ar[4, 6], ar[5, 2]] -
        Diag[ar[1, 4], ar[2, 6], ar[5, 3]] + Diag[ar[1, 4], ar[3, 6], ar[5, 2]],
      -Diag[ar[1, 3], ar[4, 2], ar[5, 6]] + Diag[ar[1, 3], ar[4, 5], ar[6, 2]] +
        Diag[ar[1, 4], ar[5, 2], ar[6, 3]] - Diag[ar[1, 4], ar[5, 3], ar[6, 2]],
      -Diag[ar[1, 3], ar[2, 4], ar[6, 5]] + Diag[ar[1, 3], ar[2, 5], ar[6, 4]] +
        Diag[ar[1, 3], ar[5, 2], ar[6, 4]] - Diag[ar[1, 3], ar[5, 4], ar[6, 2]] -
```

```
Diag[ar[1, 4], ar[2, 5], ar[6, 3]] + Diag[ar[1, 4], ar[3, 5], ar[6, 2]],
-Diag[ar[1, 3], ar[4, 2], ar[6, 5]] + Diag[ar[1, 3], ar[5, 4], ar[6, 2]] -
  Diag[ar[1, 4], ar[5, 2], ar[6, 3]] + Diag[ar[1, 4], ar[5, 3], ar[6, 2]],
Diag[ar[2, 4], ar[3, 1], ar[5, 6]] + Diag[ar[2, 5], ar[3, 6], ar[4, 1]] -
  Diag[ar[2, 6], ar[3, 1], ar[4, 5]] - Diag[ar[2, 6], ar[3, 5], ar[4, 1]],
Diag[ar[2, 4], ar[3, 1], ar[6, 5]] - Diag[ar[2, 5], ar[3, 6], ar[4, 1]] -
  Diag[ar[2, 6], ar[3, 1], ar[5, 4]] + Diag[ar[2, 6], ar[3, 5], ar[4, 1]],
-Diag[ar[2, 5], ar[3, 1], ar[4, 6]] + Diag[ar[2, 6], ar[3, 1], ar[4, 5]] -
  Diag[ar[2, 6], ar[4, 1], ar[5, 3]] + Diag[ar[3, 1], ar[4, 2], ar[5, 6]] -
  Diag[ar[3, 1], ar[4, 6], ar[5, 2]] + Diag[ar[3, 6], ar[4, 1], ar[5, 2]],
-Diag[ar[3, 1], ar[4, 2], ar[5, 6]] + Diag[ar[3, 1], ar[4, 5], ar[6, 2]] +
  Diag[ar[4, 1], ar[5, 2], ar[6, 3]] - Diag[ar[4, 1], ar[5, 3], ar[6, 2]],
-Diag[ar[2, 4], ar[3, 1], ar[6, 5]] + Diag[ar[2, 5], ar[3, 1], ar[6, 4]] -
  Diag[ar[2, 5], ar[4, 1], ar[6, 3]] + Diag[ar[3, 1], ar[5, 2], ar[6, 4]] -
  Diag[ar[3, 1], ar[5, 4], ar[6, 2]] + Diag[ar[3, 5], ar[4, 1], ar[6, 2]],
-Diag[ar[3, 1], ar[4, 2], ar[6, 5]] + Diag[ar[3, 1], ar[5, 4], ar[6, 2]] -
  Diag[ar[4, 1], ar[5, 2], ar[6, 3]] + Diag[ar[4, 1], ar[5, 3], ar[6, 2]],
Diag[ar[1, 4], ar[2, 5], ar[3, 6]] - Diag[ar[1, 4], ar[2, 6], ar[3, 5]] +
  Diag[ar[1, 5], ar[2, 3], ar[4, 6]] - Diag[ar[1, 5], ar[2, 6], ar[3, 4]],
Diag[ar[1, 4], ar[2, 5], ar[6, 3]] - Diag[ar[1, 4], ar[2, 6], ar[5, 3]] +
  Diag[ar[1, 5], ar[2, 3], ar[6, 4]] - Diag[ar[1, 5], ar[2, 4], ar[3, 6]] -
  Diag[ar[1, 5], ar[2, 4], ar[6, 3]] + Diag[ar[1, 5], ar[2, 6], ar[3, 4]],
-Diag[ar[1, 4], ar[2, 5], ar[3, 6]] + Diag[ar[1, 4], ar[2, 6], ar[3, 5]] -
  Diag[ar[1, 5], ar[2, 6], ar[4, 3]] + Diag[ar[1, 5], ar[3, 2], ar[4, 6]],
Diag[ar[1, 4], ar[3, 5], ar[6, 2]] - Diag[ar[1, 4], ar[3, 6], ar[5, 2]] -
  Diag[ar[1, 5], ar[3, 2], ar[4, 6]] + Diag[ar[1, 5], ar[3, 6], ar[4, 2]] +
  Diag[ar[1, 5], ar[4, 2], ar[6, 3]] - Diag[ar[1, 5], ar[4, 3], ar[6, 2]],
Diag[ar[1, 4], ar[5, 2], ar[6, 3]] - Diag[ar[1, 4], ar[5, 3], ar[6, 2]] -
  Diag[ar[1, 5], ar[2, 3], ar[6, 4]] + Diag[ar[1, 5], ar[3, 4], ar[6, 2]],
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 -Diag[ar[1, 3], ar[5, 2], ar[6, 4]] + Diag[ar[1, 4], ar[5, 2], ar[6, 3]] -
  Diag[ar[1, 4], ar[5, 3], ar[6, 2]] + Diag[ar[2, 4], ar[5, 3], ar[6, 1]] +
  Diag[ar[4, 2], ar[5, 1], ar[6, 3]] - Diag[ar[4, 2], ar[5, 3], ar[6, 1]],
 -Diag[ar[2, 4], ar[5, 1], ar[6, 3]] + Diag[ar[2, 4], ar[5, 3], ar[6, 1]] -
  Diag[ar[2, 5], ar[3, 1], ar[6, 4]] + Diag[ar[2, 5], ar[4, 1], ar[6, 3]] -
```

```
      Diag[ar[3, 5], ar[4, 1], ar[6, 2]] + Diag[ar[3, 5], ar[4, 2], ar[6, 1]],
     -Diag[ar[3, 1], ar[5, 2], ar[6, 4]] + Diag[ar[4, 1], ar[5, 2], ar[6, 3]] -
      Diag[ar[4, 1], ar[5, 3], ar[6, 2]] - Diag[ar[4, 2], ar[5, 1], ar[6, 3]] +
      2 Diag[ar[4, 2], ar[5, 3], ar[6, 1]],
    Diag[ar[1, 4], ar[2, 3], ar[5, 6]] + Diag[ar[1, 5], ar[2, 6], ar[3, 4]] -
      Diag[ar[1, 6], ar[2, 3], ar[4, 5]] - Diag[ar[1, 6], ar[2, 5], ar[3, 4]],
    Diag[ar[1, 4], ar[3, 2], ar[5, 6]] + Diag[ar[1, 5], ar[2, 6], ar[4, 3]] -
      Diag[ar[1, 6], ar[2, 5], ar[4, 3]] - Diag[ar[1, 6], ar[3, 2], ar[4, 5]],
    Diag[ar[1, 4], ar[2, 3], ar[6, 5]] - Diag[ar[1, 5], ar[2, 6], ar[3, 4]] -
      Diag[ar[1, 6], ar[2, 3], ar[5, 4]] + Diag[ar[1, 6], ar[2, 5], ar[3, 4]],
    Diag[ar[1, 4], ar[3, 2], ar[6, 5]] - Diag[ar[1, 5], ar[2, 6], ar[4, 3]] +
      Diag[ar[1, 6], ar[2, 5], ar[4, 3]] - Diag[ar[1, 6], ar[3, 2], ar[5, 4]],
     -Diag[ar[1, 5], ar[2, 3], ar[4, 6]] + Diag[ar[1, 6], ar[2, 3], ar[4, 5]] -
      Diag[ar[1, 6], ar[3, 4], ar[5, 2]] + Diag[ar[2, 3], ar[4, 1], ar[5, 6]] -
      Diag[ar[2, 3], ar[4, 6], ar[5, 1]] + Diag[ar[2, 6], ar[3, 4], ar[5, 1]],
     -Diag[ar[1, 5], ar[3, 2], ar[4, 6]] + Diag[ar[1, 6], ar[3, 2], ar[4, 5]] -
      Diag[ar[1, 6], ar[4, 3], ar[5, 2]] + Diag[ar[2, 6], ar[4, 3], ar[5, 1]] +
      Diag[ar[3, 2], ar[4, 1], ar[5, 6]] - Diag[ar[3, 2], ar[4, 6], ar[5, 1]],
     -Diag[ar[2, 3], ar[4, 1], ar[5, 6]] + Diag[ar[2, 3], ar[4, 5], ar[6, 1]] +
      Diag[ar[3, 4], ar[5, 1], ar[6, 2]] - Diag[ar[3, 4], ar[5, 2], ar[6, 1]],
     -Diag[ar[3, 2], ar[4, 1], ar[5, 6]] + Diag[ar[3, 2], ar[4, 5], ar[6, 1]] +
      Diag[ar[4, 3], ar[5, 1], ar[6, 2]] - Diag[ar[4, 3], ar[5, 2], ar[6, 1]],
     -Diag[ar[1, 4], ar[2, 3], ar[6, 5]] + Diag[ar[1, 5], ar[2, 3], ar[6, 4]] -
      Diag[ar[1, 5], ar[3, 4], ar[6, 2]] + Diag[ar[2, 3], ar[5, 1], ar[6, 4]] -
      Diag[ar[2, 3], ar[5, 4], ar[6, 1]] + Diag[ar[2, 5], ar[3, 4], ar[6, 1]],
     -Diag[ar[1, 4], ar[3, 2], ar[6, 5]] + Diag[ar[1, 5], ar[3, 2], ar[6, 4]] -
      Diag[ar[1, 5], ar[4, 3], ar[6, 2]] + Diag[ar[2, 5], ar[4, 3], ar[6, 1]] +
      Diag[ar[3, 2], ar[5, 1], ar[6, 4]] - Diag[ar[3, 2], ar[5, 4], ar[6, 1]],
     -Diag[ar[2, 3], ar[4, 1], ar[6, 5]] + Diag[ar[2, 3], ar[5, 4], ar[6, 1]] -
      Diag[ar[3, 4], ar[5, 1], ar[6, 2]] + Diag[ar[3, 4], ar[5, 2], ar[6, 1]],
     -Diag[ar[3, 2], ar[4, 1], ar[6, 5]] + Diag[ar[3, 2], ar[5, 4], ar[6, 1]] -
      Diag[ar[4, 3], ar[5, 1], ar[6, 2]] + Diag[ar[4, 3], ar[5, 2], ar[6, 1]]};
```