$$A(4) 
 \begin{bmatrix}
 a^3 & ab \\
 -1 & 4
\end{bmatrix} 
 \begin{bmatrix}
 a^4 & a^2b & b^2 \\
 1 & 0 & 0 \\
 0 & 0 & 1
\end{bmatrix} 
 A(5)$$

$$\begin{bmatrix} a^4 & a^2b & b^2 \\ -1 & 5 & 0 \\ -1 & 0 & 25 \end{bmatrix}$$
$$\begin{bmatrix} a^5 & a^3b & ab^2 \\ 1 & 0 & 0 \end{bmatrix}$$

A(6)

A(7)

$$\begin{bmatrix} a^5 & a^3b & a^2c & ab^2 & bc \\ 1 & -13 & 28 & 14 & 0 \\ 11 & -129 & 280 & 0 & 588 \end{bmatrix}$$
 
$$\begin{bmatrix} a^6 & a^4b & a^3c & a^2b^2 & abc & b^3 & c^2 \\ -1 & 7 & 0 & 0 & 0 & 0 & 0 \\ -1 & 0 & 49 & 0 & 0 & 0 & 0 \\ -1 & 0 & 0 & 0 & 0 & 343 & 0 \\ -1 & 0 & 0 & 0 & 0 & 0 & 2401 \end{bmatrix}$$
 
$$\begin{bmatrix} a^7 & a^5b & a^4c & a^3b^2 & a^2bc & ab^3 & ac^2 & b^2c \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

A(8)

 $\begin{bmatrix} a^5 & a^3b & a^2c & ab^2 & ad & bc \\ -1 & 21 & -92 & -54 & 240 & 96 \end{bmatrix}$ 

$$\begin{bmatrix} a^6 & a^4b & a^3c & a^2b^2 & a^2d & abc & b^3 & bd & c^2 \\ 1 & -15 & 32 & 24 & 0 & 0 & 0 & 0 & 0 \\ -1 & -9 & 304 & 0 & -1440 & 0 & 96 & 0 & 0 \\ 1 & -87 & 1232 & 0 & -5472 & 0 & 0 & 5376 & 0 \\ 17 & -135 & -784 & 0 & 5760 & 0 & 0 & 0 & 3584 \end{bmatrix}$$

 $a^2b^2$ 

-87

 $a^4b$ 

 $a^3c$ 

-104

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\begin{bmatrix} -11 & 258 \end{bmatrix}
                                                 -1120 -837 2910 1488
                                                                                   2160
                                                                                          864
                                                a^3b^2
                                a^5b
                                                        a^3d
                                                                a^2bc
                                                                       ab^3
                                                                                            b^2c
                                         a^4c
                                                                              abd
                                                                                     ac^2
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