# Matrix Practice Answer

# CBDT

# September 9, 2024

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**15** 

**29** 

# Contents

1 Matrix Multiplication

3 Matrix Determinant

2 Matrix Inverse

1 Matrix	Multiplication
answer1	$\begin{bmatrix} 24 & 11 \\ 6 & -6 \end{bmatrix}$
answer2	$ \begin{bmatrix} 1 & 62 \\ -112 & -69 \end{bmatrix} $
answer3	$\begin{bmatrix} 3 & -8 \\ 5 & -36 \end{bmatrix}$
answer4 answer5	$\begin{bmatrix} -73 & 9\\ 26 & -90 \end{bmatrix}$
answer6	$ \begin{bmatrix} 51 & -36 \\ 2 & 53 \end{bmatrix} $
answer7	$\begin{bmatrix} -9 & 99 \\ 26 & 20 \end{bmatrix}$
answer8	$\begin{bmatrix} 8 & 39 \\ -9 & -43 \end{bmatrix}$
	$\begin{bmatrix} 8 & 8 \\ -30 & -22 \end{bmatrix}$

answer9 
$$\begin{bmatrix} 86 & 92 \\ 16 & 10 \end{bmatrix}$$
 answer10 
$$\begin{bmatrix} -40 & 16 \\ 38 & 4 \end{bmatrix}$$

answer11 
$$\begin{bmatrix} -2 & -12 \\ -54 & 54 \end{bmatrix}$$

answer12 
$$\begin{bmatrix} -4 & -20 \\ 30 & 48 \end{bmatrix}$$

answer13 
$$\begin{bmatrix} -21 & 62 \\ -39 & -67 \end{bmatrix}$$

answer14 
$$\begin{bmatrix} -8 & 47 \\ 11 & 65 \end{bmatrix}$$

answer15 
$$\begin{bmatrix} 5 & -40 \\ -68 & -8 \end{bmatrix}$$

answer16 
$$\begin{bmatrix} -80 & -24 \\ -60 & -4 \end{bmatrix}$$

answer17 
$$\begin{bmatrix} -15 & 48 \\ 20 & 6 \end{bmatrix}$$

answer18 
$$\begin{bmatrix} 18 & -42 \\ 30 & 18 \end{bmatrix}$$

answer19 
$$\begin{bmatrix} -27 & -5 \\ 18 & 6 \end{bmatrix}$$

answer20 
$$\begin{bmatrix} -112 & -24 \\ -35 & -1 \end{bmatrix}$$

answer21 
$$\begin{bmatrix} 18 & 10 \\ -62 & -40 \end{bmatrix}$$

answer**22** 
$$\begin{bmatrix} 80 & 27 \\ -48 & 30 \end{bmatrix}$$

answer23
$$\begin{bmatrix}
-12 & 0 \\
8 & 0
\end{bmatrix}$$
answer24
$$\begin{bmatrix}
-27 & 59 \\
-15 & 19
\end{bmatrix}$$
answer25
$$\begin{bmatrix}
-92 & -51 \\
-24 & -29
\end{bmatrix}$$
answer27
$$\begin{bmatrix}
48 & -37 \\
-60 & 32
\end{bmatrix}$$
answer28
$$\begin{bmatrix}
-24 & -2 \\
3 & -16
\end{bmatrix}$$
answer29
$$\begin{bmatrix}
46 & 0 \\
63 & -14
\end{bmatrix}$$
answer30
$$\begin{bmatrix}
-27 & -65 \\
40 & -45
\end{bmatrix}$$
answer31
$$\begin{bmatrix}
-42 & -78 \\
91 & 69
\end{bmatrix}$$
answer32
$$\begin{bmatrix}
49 & -21 \\
-57 & -51
\end{bmatrix}$$
answer33

answer35

answer36

 $\begin{bmatrix} -38 & 6 \\ 32 & -8 \end{bmatrix}$ 

 $\begin{bmatrix} 32 & 60 \\ -40 & -59 \end{bmatrix}$ 

 $\begin{bmatrix} -153 & 8 \\ -141 & 27 \end{bmatrix}$ 

$$\begin{bmatrix} -4 & 16\\ 10 & 79 \end{bmatrix}$$

$$\begin{bmatrix} -7 & -119 \\ 7 & 84 \end{bmatrix}$$

$$\begin{bmatrix} -132 & -54 \\ 73 & 36 \end{bmatrix}$$

$$\begin{bmatrix} -16 & -12 \\ -23 & -21 \end{bmatrix}$$

answer41

$$\begin{bmatrix} -106 & -70 \\ -22 & 10 \end{bmatrix}$$

answer42

$$\begin{bmatrix} -34 & -84 \\ 37 & -48 \end{bmatrix}$$

answer43

$$\begin{bmatrix} 6 & -36 \\ 4 & -60 \end{bmatrix}$$

answer44

$$\begin{bmatrix} -5 & -2 \\ -1 & 18 \end{bmatrix}$$

 ${\bf answer 45}$ 

$$\begin{bmatrix} 20 & 68 \\ -40 & -66 \end{bmatrix}$$

 ${\bf answer 46}$ 

$$\begin{bmatrix} -111 & -43 \\ -49 & -67 \end{bmatrix}$$

 ${\bf answer 47}$ 

$$\begin{bmatrix} 13 & 26 \\ -20 & 42 \end{bmatrix}$$

answer48

$$\begin{bmatrix} 12 & -38 \\ 0 & -12 \end{bmatrix}$$

 ${\bf answer 49}$ 

$$\begin{bmatrix} -9 & -24 \\ 47 & 37 \end{bmatrix}$$

$$\begin{bmatrix} 108 & 54 \\ -34 & -19 \end{bmatrix}$$

$$\begin{bmatrix} 6 & 22 & -36 \\ -76 & -86 & -41 \\ 46 & 66 & 11 \end{bmatrix}$$

$$\begin{bmatrix} 100 & 85 & 20 \\ -78 & -169 & 26 \\ 50 & -13 & 36 \end{bmatrix}$$

# ${\bf answer 53}$

$$\begin{bmatrix} -58 & 38 & 45 \\ 65 & -69 & -30 \\ 79 & -79 & -6 \end{bmatrix}$$

#### answer54

$$\begin{bmatrix} 34 & 73 & -40 \\ -67 & -6 & 1 \\ -79 & 14 & -11 \end{bmatrix}$$

# answer55

$$\begin{bmatrix} -20 & -82 & -22 \\ -52 & -10 & 2 \\ -57 & -15 & -23 \end{bmatrix}$$

## answer56

$$\begin{bmatrix} -58 & -56 & 72 \\ -56 & -72 & 84 \\ -46 & -74 & 83 \end{bmatrix}$$

# answer57

$$\begin{bmatrix} -8 & 34 & 33 \\ -2 & -125 & 49 \\ -8 & 78 & 31 \end{bmatrix}$$

#### answer58

$$\begin{bmatrix} -121 & 9 & -63 \\ -51 & -9 & -48 \\ 82 & 80 & 42 \end{bmatrix}$$

#### answer59

$$\begin{bmatrix} -52 & 60 & -78 \\ -24 & 25 & -24 \\ 58 & -53 & 63 \end{bmatrix}$$

### answer60

$$\begin{bmatrix} 3 & -67 & -4 \\ -36 & -62 & 40 \\ 21 & 31 & -48 \end{bmatrix}$$

$$\begin{bmatrix} -44 & 0 & -8 \\ 47 & -16 & -5 \\ -64 & -107 & -36 \end{bmatrix}$$

$$\begin{bmatrix} -60 & -97 & -4 \\ -102 & -133 & 28 \\ -42 & -59 & -1 \end{bmatrix}$$

$$\begin{bmatrix} -32 & -25 & 65 \\ -41 & 5 & 57 \\ 35 & 28 & 7 \end{bmatrix}$$

# answer64

$$\begin{bmatrix} 145 & 136 & 118 \\ 71 & 60 & 70 \\ -165 & -157 & -141 \end{bmatrix}$$

#### answer65

$$\begin{bmatrix} -34 & 11 & -36 \\ -63 & 93 & 27 \\ 7 & 45 & 30 \end{bmatrix}$$

# answer66

$$\begin{bmatrix} -35 & 95 & 58 \\ 87 & -99 & -60 \\ -14 & 71 & 76 \end{bmatrix}$$

## answer67

$$\begin{bmatrix} 51 & -129 & 95 \\ -23 & -3 & -95 \\ -9 & -19 & -60 \end{bmatrix}$$

# answer68

$$\begin{bmatrix} -37 & 13 & 68 \\ 17 & 1 & -96 \\ 30 & -12 & -61 \end{bmatrix}$$

## answer69

$$\begin{bmatrix} 23 & -15 & -69 \\ -9 & -23 & 75 \\ 17 & 96 & 45 \end{bmatrix}$$

#### answer70

$$\begin{bmatrix} -91 & 49 & -34 \\ -55 & 28 & -22 \\ -43 & 31 & -16 \end{bmatrix}$$

### answer71

$$\begin{bmatrix} 34 & -24 & -80 \\ -48 & -12 & 135 \\ 68 & 12 & -90 \end{bmatrix}$$

### ${\bf answer 72}$

$$\begin{bmatrix} -144 & -34 & -40 \\ 90 & -1 & 1 \\ 2 & 59 & 52 \end{bmatrix}$$

$$\begin{bmatrix} -95 & -44 & -144 \\ -86 & -94 & -4 \\ 8 & 7 & -30 \end{bmatrix}$$

$$\begin{bmatrix} -7 & 13 & -11 \\ -23 & 47 & -117 \\ 6 & -20 & -27 \end{bmatrix}$$

# answer75

$$\begin{bmatrix} -31 & -1 & -10 \\ -2 & 52 & 37 \\ 94 & 28 & 65 \end{bmatrix}$$

#### answer76

$$\begin{bmatrix} -11 & 23 & -5 \\ -5 & -43 & -16 \\ 10 & 14 & 16 \end{bmatrix}$$

# answer77

$$\begin{bmatrix} 43 & -24 & -18 \\ 120 & -24 & -55 \\ 30 & -30 & 24 \end{bmatrix}$$

## answer78

$$\begin{bmatrix} 105 & -55 & 30 \\ -76 & -30 & 52 \\ 61 & -95 & 86 \end{bmatrix}$$

# answer79

$$\begin{bmatrix} -48 & -2 & -39 \\ 0 & -73 & 39 \\ -101 & 40 & -24 \end{bmatrix}$$

#### answer80

$$\begin{bmatrix} 33 & 35 & 75 \\ -42 & 53 & 91 \\ -37 & -15 & 27 \end{bmatrix}$$

#### answer81

$$\begin{bmatrix} 28 & 29 & -131 \\ 34 & 7 & -92 \\ 28 & -46 & 40 \end{bmatrix}$$

### answer82

$$\begin{bmatrix} 24 & -2 & 20 \\ -88 & -3 & -82 \\ -8 & 105 & -62 \end{bmatrix}$$

$$\begin{bmatrix} 17 & -43 & -25 \\ -73 & -160 & -58 \\ 29 & 20 & 25 \end{bmatrix}$$

$$\begin{bmatrix} 65 & -167 & -43 \\ 66 & -49 & 39 \\ 33 & -28 & 58 \end{bmatrix}$$

$$\begin{bmatrix} -25 & -121 & 55 \\ -9 & 61 & -35 \\ 31 & -79 & 6 \end{bmatrix}$$

# answer86

$$\begin{bmatrix} -19 & -3 & 37 \\ 98 & -86 & -104 \\ -38 & 110 & 49 \end{bmatrix}$$

#### answer87

$$\begin{bmatrix} 19 & -49 & -46 \\ 59 & -3 & -15 \\ 17 & -8 & 6 \end{bmatrix}$$

# answer88

$$\begin{bmatrix} -6 & -118 & 20 \\ -11 & 1 & -28 \\ -1 & -26 & 40 \end{bmatrix}$$

## answer89

$$\begin{bmatrix} -64 & -37 & 86 \\ -54 & -25 & 86 \\ -30 & -20 & -4 \end{bmatrix}$$

# answer90

$$\begin{bmatrix} 14 & -12 & 12 \\ 47 & 57 & -58 \\ -32 & -57 & 64 \end{bmatrix}$$

## answer91

$$\begin{bmatrix} 27 & -76 & -18 \\ -8 & 20 & 6 \\ 10 & 24 & -11 \end{bmatrix}$$

#### answer92

$$\begin{bmatrix} -17 & -48 & -76 \\ -104 & -40 & -9 \\ 87 & -10 & -80 \end{bmatrix}$$

### answer93

$$\begin{bmatrix} -51 & 29 & -15 \\ -67 & 33 & 15 \\ 16 & 15 & 32 \end{bmatrix}$$

$$\begin{bmatrix} 60 & 57 & 137 \\ 78 & 46 & 130 \\ 86 & 15 & 89 \end{bmatrix}$$

$$\begin{bmatrix} -23 & 145 & 22 \\ 104 & 0 & -130 \\ 5 & 101 & -16 \end{bmatrix}$$

$$\begin{bmatrix} 15 & 0 & -20 \\ -18 & -36 & 63 \\ 49 & 9 & -26 \end{bmatrix}$$

# answer97

$$\begin{bmatrix} -122 & -12 & 77 \\ 26 & 6 & -7 \\ -86 & 38 & 20 \end{bmatrix}$$

#### answer98

$$\begin{bmatrix} 71 & 86 & -77 \\ 78 & 39 & -91 \\ -110 & -119 & 27 \end{bmatrix}$$

# answer99

$$\begin{bmatrix} 2 & 28 & 46 \\ 4 & 8 & -26 \\ 9 & -89 & -113 \end{bmatrix}$$

## answer100

$$\begin{bmatrix} -29 & -78 & 17 \\ -65 & -28 & 17 \\ -63 & -16 & -51 \end{bmatrix}$$

# answer101

$$\begin{bmatrix} -65 & -54 & -7 & 56 \\ -26 & -81 & -16 & 6 \\ 25 & 59 & -48 & -120 \\ 12 & 105 & 11 & 18 \end{bmatrix}$$

# ${\bf answer 102}$

$$\begin{bmatrix} -33 & 19 & -20 & 100 \\ -76 & -67 & 133 & 55 \\ -95 & -59 & 15 & 25 \\ -45 & -51 & 155 & 57 \end{bmatrix}$$

# answer103

$$\begin{bmatrix} -1 & 75 & -21 & 103 \\ 10 & -3 & 6 & 26 \\ 58 & 39 & 46 & 72 \\ -56 & -25 & 1 & -45 \end{bmatrix}$$

$$\begin{bmatrix} 30 & 173 & 27 & 26 \\ 71 & -64 & 138 & -143 \\ -2 & 97 & -5 & 34 \\ 97 & -25 & 3 & -105 \end{bmatrix}$$

$$\begin{bmatrix} 19 & -8 & -11 & 63 \\ 47 & 24 & 1 & 5 \\ 73 & 58 & 23 & 61 \\ 60 & 16 & 24 & 46 \end{bmatrix}$$

$$\begin{bmatrix} 159 & -55 & -131 & 29 \\ 87 & -4 & 3 & 138 \\ 55 & 24 & 4 & 57 \\ 44 & 20 & -41 & -43 \end{bmatrix}$$

### answer107

$$\begin{bmatrix} 49 & 21 & -34 & 57 \\ 4 & -79 & 88 & -62 \\ -68 & -7 & 27 & -62 \\ 5 & -17 & 63 & 39 \end{bmatrix}$$

#### answer108

$$\begin{bmatrix} 97 & -6 & -86 & -45 \\ -52 & 106 & -21 & -70 \\ -142 & 142 & -105 & 32 \\ -120 & 42 & 60 & 48 \end{bmatrix}$$

#### answer109

$$\begin{bmatrix} -9 & -26 & -14 & 63 \\ -14 & -71 & -6 & 11 \\ 0 & 13 & -2 & -95 \\ -54 & -60 & -37 & 42 \end{bmatrix}$$

#### answer110

$$\begin{bmatrix} 46 & -107 & -72 & -22 \\ -36 & 64 & 120 & -34 \\ -57 & 87 & 51 & 45 \\ 82 & -105 & -144 & -29 \end{bmatrix}$$

# answer111

$$\begin{bmatrix} 73 & -56 & -28 & -78 \\ -143 & 76 & -1 & 7 \\ -66 & 31 & -71 & -9 \\ -14 & -30 & -20 & -103 \end{bmatrix}$$

## answer112

$$\begin{bmatrix} -98 & 122 & -163 & -12 \\ -9 & 68 & -24 & -29 \\ -82 & 75 & -80 & -8 \\ -49 & 59 & -18 & -4 \end{bmatrix}$$

$$\begin{bmatrix} 29 & 83 & 70 & -2 \\ 13 & 21 & -30 & -36 \\ -21 & -76 & -59 & -41 \\ 7 & 27 & -16 & 13 \end{bmatrix}$$

$$\begin{bmatrix} 51 & 54 & -5 & 21 \\ 27 & 26 & 10 & -32 \\ -21 & -16 & 3 & -11 \\ 38 & 68 & -10 & -25 \end{bmatrix}$$

$$\begin{bmatrix} -6 & -14 & -13 & -41 \\ 67 & 85 & -26 & 15 \\ 20 & -76 & -33 & -57 \\ 75 & 21 & 8 & 135 \end{bmatrix}$$

### answer116

$$\begin{bmatrix} -17 & -35 & 77 & -25 \\ 59 & -86 & -21 & -51 \\ 0 & 18 & 27 & -3 \\ 67 & 32 & -48 & -24 \end{bmatrix}$$

#### answer117

$$\begin{bmatrix} 16 & 16 & -7 & -10 \\ 3 & 102 & -44 & -59 \\ -11 & 8 & -71 & 27 \\ -3 & -57 & 135 & -99 \end{bmatrix}$$

#### answer118

$$\begin{bmatrix} -80 & -60 & 76 & -31 \\ 57 & 123 & -51 & -61 \\ -62 & 44 & 13 & -61 \\ 32 & -18 & 31 & -39 \end{bmatrix}$$

#### answer119

$$\begin{bmatrix} 80 & 64 & 108 & -98 \\ -61 & -87 & 89 & 40 \\ 107 & -46 & 32 & 36 \\ 123 & -24 & 61 & 22 \end{bmatrix}$$

# answer120

$$\begin{bmatrix} 97 & 84 & -33 & -14 \\ 12 & 33 & -69 & -57 \\ 56 & -13 & -65 & -21 \\ 24 & 0 & -86 & -45 \end{bmatrix}$$

## answer121

$$\begin{bmatrix} 29 & -46 & 46 & -72 \\ -72 & 20 & 32 & 20 \\ 73 & -61 & 27 & 45 \\ -79 & -36 & 5 & -129 \end{bmatrix}$$

$$\begin{bmatrix} 25 & -55 & -69 & 179 \\ -22 & -6 & 113 & -147 \\ -106 & 89 & -19 & 76 \\ -65 & 18 & -10 & -39 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 46 & -27 & -13 \\ -28 & 28 & -12 & -20 \\ -84 & 52 & 92 & -28 \\ -24 & 3 & 56 & -8 \end{bmatrix}$$

$$\begin{bmatrix} 126 & -65 & 195 & -48 \\ -65 & 8 & -106 & -14 \\ 57 & 58 & 96 & -44 \\ 73 & 65 & 14 & 54 \end{bmatrix}$$

### answer125

$$\begin{bmatrix} 21 & -6 & 45 & 48 \\ -48 & 5 & -52 & -49 \\ -131 & -27 & -53 & -18 \\ 4 & -1 & 43 & 57 \end{bmatrix}$$

#### answer126

$$\begin{bmatrix} 55 & -100 & -63 & -59 \\ 37 & 21 & -23 & 93 \\ 83 & -71 & -92 & 88 \\ -38 & 36 & 37 & 23 \end{bmatrix}$$

#### answer127

$$\begin{bmatrix} -97 & -105 & 105 & 22 \\ -30 & -150 & 84 & -2 \\ -97 & -51 & 72 & -44 \\ -15 & -33 & 9 & -57 \end{bmatrix}$$

### answer128

$$\begin{bmatrix} 21 & 15 & -5 & -49 \\ -73 & 127 & -63 & -61 \\ -9 & 67 & -94 & -70 \\ -74 & 27 & 53 & 65 \end{bmatrix}$$

# answer129

$$\begin{bmatrix} -117 & -28 & 27 & -3 \\ -46 & 27 & -28 & 2 \\ -45 & -7 & -46 & 0 \\ -70 & 41 & 4 & 20 \end{bmatrix}$$

## answer130

$$\begin{bmatrix} 18 & 64 & 1 & -25 \\ 6 & 74 & 108 & -6 \\ 122 & 65 & -14 & 35 \\ -76 & -11 & -8 & 23 \end{bmatrix}$$

$$\begin{bmatrix} 173 & -95 & -36 & 1 \\ -110 & 61 & -80 & 20 \\ 89 & -109 & -30 & 11 \\ -59 & 47 & 91 & 33 \end{bmatrix}$$

$$\begin{bmatrix} 5 & 25 & -67 & 33 \\ 64 & -15 & 51 & -92 \\ -71 & -35 & -97 & 144 \\ 24 & 20 & -10 & -45 \end{bmatrix}$$

$$\begin{bmatrix} 28 & 50 & -148 & 3 \\ 124 & 78 & 59 & 96 \\ 4 & -26 & 80 & -25 \\ 29 & 26 & -97 & -19 \end{bmatrix}$$

# ${\bf answer 134}$

$$\begin{bmatrix} 81 & -19 & 51 & 1 \\ -31 & -39 & -41 & -7 \\ -17 & 20 & -33 & 19 \\ -30 & -14 & -52 & -42 \end{bmatrix}$$

#### answer135

$$\begin{bmatrix} 67 & -94 & 8 & 77 \\ -20 & -70 & 78 & 67 \\ 64 & -10 & -4 & 134 \\ 11 & -20 & -46 & -126 \end{bmatrix}$$

#### answer136

$$\begin{bmatrix} 24 & 102 & 54 & -76 \\ 8 & -35 & -20 & 32 \\ 79 & 76 & 37 & -17 \\ -34 & -1 & 29 & -63 \end{bmatrix}$$

#### answer137

$$\begin{bmatrix} 84 & -7 & 20 & -5 \\ -41 & 34 & -76 & -60 \\ 40 & 70 & -86 & -28 \\ 1 & 73 & -101 & -66 \end{bmatrix}$$

# answer138

$$\begin{bmatrix} 51 & -14 & -94 & 2 \\ -123 & 84 & -10 & -16 \\ -33 & 48 & -114 & 24 \\ 9 & -36 & 134 & -36 \end{bmatrix}$$

## answer139

$$\begin{bmatrix} 4 & -10 & -157 & 128 \\ 46 & 53 & -122 & 70 \\ -55 & -62 & 96 & -3 \\ 23 & 2 & -1 & 31 \end{bmatrix}$$

$$\begin{bmatrix} 11 & -94 & -73 & 26 \\ -35 & -17 & -2 & -35 \\ -7 & 32 & -13 & -37 \\ 18 & -181 & 93 & 148 \end{bmatrix}$$

$$\begin{bmatrix} 65 & 79 & -26 & 42 \\ -76 & 19 & -94 & -66 \\ 51 & 87 & 10 & 22 \\ -28 & -32 & -68 & -79 \end{bmatrix}$$

$$\begin{bmatrix} -52 & -11 & -50 & -30 \\ -46 & -31 & -46 & -23 \\ -24 & -68 & 75 & -23 \\ -40 & 3 & -27 & 5 \end{bmatrix}$$

### answer143

$$\begin{bmatrix} -11 & -33 & 38 & -5 \\ 21 & -93 & 54 & -1 \\ -22 & 68 & -20 & 12 \\ 17 & 104 & -143 & -18 \end{bmatrix}$$

# answer144

$$\begin{bmatrix} 27 & -7 & -14 & -25 \\ 34 & -12 & -55 & -21 \\ 29 & -23 & -6 & 19 \\ 96 & -110 & 0 & 18 \end{bmatrix}$$

#### answer145

$$\begin{bmatrix} -34 & 21 & 55 & 14 \\ -66 & -45 & 132 & -99 \\ -52 & -77 & 33 & -182 \\ -32 & -38 & 36 & -62 \end{bmatrix}$$

#### answer146

$$\begin{bmatrix} -11 & 22 & -21 & 61 \\ 98 & -116 & 6 & -86 \\ 24 & 26 & 3 & -30 \\ 56 & 42 & -102 & -16 \end{bmatrix}$$

# answer147

$$\begin{bmatrix} -32 & 128 & -15 & -100 \\ -99 & 50 & 7 & -117 \\ 26 & -44 & 1 & 32 \\ 85 & -99 & 1 & 130 \end{bmatrix}$$

## answer148

$$\begin{bmatrix} 12 & -48 & 27 & -24 \\ -14 & -36 & 19 & -6 \\ -51 & -29 & 60 & -27 \\ 63 & 78 & 18 & -33 \end{bmatrix}$$

$$\begin{bmatrix} 115 & 110 & -88 & -70 \\ -129 & 36 & -27 & -77 \\ -53 & 4 & -18 & -139 \\ 20 & 96 & -73 & -60 \end{bmatrix}$$

$$\begin{bmatrix} -80 & -69 & -129 & 20 \\ 83 & 56 & 168 & -91 \\ 80 & 23 & 29 & -56 \\ 86 & 17 & 72 & -25 \end{bmatrix}$$

# 2 Matrix Inverse

omarron1	
answer1	$\begin{bmatrix} 1.000000 & -0.666667 \\ -3.000000 & 1.666667 \end{bmatrix}$
answer2	$\begin{bmatrix} -0.125000 & -0.000000 \\ -0.312500 & 0.250000 \end{bmatrix}$
answer3	$\begin{bmatrix} -0.050000 & 0.350000 \\ -0.200000 & 0.400000 \end{bmatrix}$
answer4	$\begin{bmatrix} 0.500000 & -0.900000 \\ -0.000000 & -0.200000 \end{bmatrix}$
answer5	$\begin{bmatrix} 0.121951 & -0.012195 \\ 0.097561 & -0.109756 \end{bmatrix}$
answer6	$\begin{bmatrix} 0.106667 & -0.093333 \\ 0.066667 & 0.066667 \end{bmatrix}$
answer7	$\begin{bmatrix} 0.375000 & -0.250000 \\ -0.125000 & -0.250000 \end{bmatrix}$
answer8	$\begin{bmatrix} 0.000000 & 0.250000 \\ 0.333333 & -0.333333 \end{bmatrix}$
answer9	$\begin{bmatrix} 0.179487 & -0.205128 \\ 0.076923 & -0.230769 \end{bmatrix}$
answer10	$\begin{bmatrix} -1.000000 & -0.375000 \\ 0.000000 & 0.125000 \end{bmatrix}$
answer11	$\begin{bmatrix} 0.300000 & -0.125000 \end{bmatrix}$ $\begin{bmatrix} 0.300000 & -0.100000 \\ 0.250000 & -0.250000 \end{bmatrix}$
answer12	-
	$\begin{bmatrix} -0.000000 & -0.111111 \\ 0.142857 & 0.095238 \end{bmatrix}$

answer13		
	$\begin{bmatrix} -1.000000 \\ 0.500000 \end{bmatrix}$	$\begin{bmatrix} -0.800000 \\ 0.300000 \end{bmatrix}$
answer14	$\begin{bmatrix} -0.055556 \\ 0.055556 \end{bmatrix}$	$\begin{bmatrix} 0.222222 \\ 0.277778 \end{bmatrix}$
answer15	$\begin{bmatrix} -0.000000 \\ -0.125000 \end{bmatrix}$	$\begin{bmatrix} -0.166667\\ 0.125000 \end{bmatrix}$
answer16	$\begin{bmatrix} -0.153846 \\ 0.076923 \end{bmatrix}$	_
answer17	$\begin{bmatrix} -0.070923 \\ -0.090909 \\ -0.034091 \end{bmatrix}$	_
answer18	_	_
answer19	$\begin{bmatrix} -0.615385 \\ 0.692308 \end{bmatrix}$	
answer20	$\begin{bmatrix} -0.235294 \\ -0.176471 \end{bmatrix}$	_
	$\begin{bmatrix} 0.181818 \\ -0.151515 \end{bmatrix}$	$   \begin{bmatrix}     -0.090909 \\     -0.090909   \end{bmatrix} $
answer21	$\begin{bmatrix} -0.151515 \\ 0.181818 \end{bmatrix}$	$\begin{bmatrix} -0.090909 \\ -0.090909 \end{bmatrix}$
answer22	$\begin{bmatrix} 0.076923 \\ -0.076923 \end{bmatrix}$	0.461538 $0.538462$
answer23	$\begin{bmatrix} -0.200000 \\ -0.100000 \end{bmatrix}$	_
answer24	$\begin{bmatrix} 0.166667 \\ -0.166667 \end{bmatrix}$	_
answer25	$\begin{bmatrix} -0.125000 \\ -0.062500 \end{bmatrix}$	_
answer26	$ \begin{bmatrix} -0.136364 \\ -0.090909 \end{bmatrix} $	
	L 0.000000	3.000000

answer27	$\begin{bmatrix} -0.035714 & 0.107143 \\ 0.107143 & 0.178571 \end{bmatrix}$
answer28	$\begin{bmatrix} 0.118421 & -0.013158 \\ 0.065789 & -0.118421 \end{bmatrix}$
answer29	$\begin{bmatrix} -0.208333 & -0.375000 \\ -0.250000 & -0.250000 \end{bmatrix}$
answer30	$\begin{bmatrix} -0.090909 & 0.018182 \\ -0.090909 & -0.181818 \end{bmatrix}$
answer31	$\begin{bmatrix} 0.600000 & 1.000000 \\ -0.700000 & -1.000000 \end{bmatrix}$
answer32	$\begin{bmatrix} -0.066667 & 0.533333 \\ 0.133333 & -0.066667 \end{bmatrix}$
answer33	$\begin{bmatrix} 0.016667 & -0.116667 \\ 0.150000 & -0.050000 \end{bmatrix}$
answer34	$\begin{bmatrix} 0.083333 & -0.125000 \\ -0.250000 & -0.125000 \end{bmatrix}$
answer35	$\begin{bmatrix} -0.062500 & -0.100000 \\ -0.125000 & -0.000000 \end{bmatrix}$
answer36	$\begin{bmatrix} -0.084211 & -0.073684 \\ 0.094737 & -0.042105 \end{bmatrix}$
answer37	$\begin{bmatrix} 0.123288 & -0.109589 \\ 0.109589 & 0.013699 \end{bmatrix}$
answer38	$\begin{bmatrix} -0.117647 & 0.176471 \\ 0.029412 & -0.294118 \end{bmatrix}$
answer39	$\begin{bmatrix} -0.049383 & 0.111111 \\ 0.111111 & 0.000000 \end{bmatrix}$
answer40	$\begin{bmatrix} 0.140625 & -0.062500 \\ -0.109375 & -0.062500 \end{bmatrix}$

answer41	$\begin{bmatrix} -0.069767 & 0.186047 \\ 0.186047 & -0.162791 \end{bmatrix}$
answer42	$\begin{bmatrix} 0.200000 & 0.000000 \\ -0.200000 & 0.200000 \end{bmatrix}$
answer43	$\begin{bmatrix} -0.075758 & 0.045455 \\ -0.053030 & -0.068182 \end{bmatrix}$
answer44	$\begin{bmatrix} -0.133333 & -0.033333 \\ -0.166667 & 0.083333 \end{bmatrix}$
answer45	$\begin{bmatrix} 0.000000 & -0.500000 \\ -1.000000 & -3.500000 \end{bmatrix}$
answer46	$\begin{bmatrix} -0.357143 & -0.071429 \\ -0.071429 & -0.214286 \end{bmatrix}$
answer47	$\begin{bmatrix} -0.259259 & -0.296296 \\ -0.222222 & -0.111111 \end{bmatrix}$
answer48	$\begin{bmatrix} -0.024390 & -0.085366 \\ 0.121951 & -0.073171 \end{bmatrix}$
answer49	$\begin{bmatrix} -0.064815 & -0.074074 \\ -0.092593 & 0.037037 \end{bmatrix}$
answer50	$\begin{bmatrix} -0.047619 & 0.142857 \\ -0.063492 & -0.142857 \end{bmatrix}$
answer51	$\begin{bmatrix} 0.218845 & 0.039514 & 0.042553 \\ -0.194529 & 0.075988 & -0.148936 \\ 0.033435 & -0.091185 & -0.021277 \end{bmatrix}$
answer 52	$\begin{bmatrix} -0.113712 & 0.022575 & 0.065217 \\ 0.023411 & 0.046823 & -0.086957 \\ -0.026756 & -0.053512 & -0.043478 \end{bmatrix}$
answer53	$\begin{bmatrix} -0.333333 & -0.666667 & 2.000000 \\ -1.000000 & -2.333333 & 7.666667 \\ 0.000000 & -0.333333 & 0.666667 \end{bmatrix}$

answer54			
	[-0.106383]	-0.117021	-0.308511
	0.223404	0.095745	0.297872
	0.180851	0.148936	0.074468
answer55	_		_
answeroo	[-0.053178]	-0.039559	0.016861
	-0.006485	0.092737	0.075227
	$\begin{bmatrix} -0.006485 \\ -0.062257 \end{bmatrix}$	-0.009728	-0.077821
	L 0.002201	0.000120	0.011021]
answer56	Γ ο τορορο	0.050000	0.050000 ]
	$\begin{bmatrix} -0.500000 \\ 0.540000 \end{bmatrix}$	0.250000	0.250000
	0.540000	-0.190000	-0.150000
	0.340000	0.010000	-0.150000
answer57	_		_
	-0.074534	0.180124	0.111801
	-0.086957	0.043478	0.130435
	0.055901	-0.385093	-0.583851
answer58			
answerse	[-0.400000	0.600000	-0.800000
	0.500000	-1.000000	1.500000
	1.500000	-3.000000	3.500000
<b>F</b> 0	L		
answer59	0.116279	0.162791	0.011628
	-0.139535	0.102731	0.011028 $0.186047$
	0.023256	0.104051 $0.232558$	0.100047
	0.023230	0.232336	0.302320]
answer60	Fo 004 = 04	0.400000	0.0=0007
	0.081731	0.182692	-0.076923
	<b>I</b>	-0.192308	-0.076923
	0.187500	0.125000	-0.000000
answer61			
	0.094160	-0.065554	-0.061979
	0.013111	-0.097735	0.016687
	-0.106079	-0.027414	-0.044100
answer62	_		_
answer 02	「 0.047619	0.000000	0.142857
	0.171429	0.200000	0.114286
	-0.257143	0.200000	-0.171429
	L		
answer63	Γ 0 003813	0.049900	0.004990 ]
	$\begin{bmatrix} 0.093812 \\ 0.049900 \end{bmatrix}$	-0.079840	-0.004990 $-0.007984$
	-0.019960		$\begin{bmatrix} -0.007984 \\ -0.096806 \end{bmatrix}$
	F-0.019900	0.031936	_0.0908000]
answer64	F 4 2000000	0.000000	0.000007
	1.200000	0.300000	-2.300000
	-0.500000	-0.250000	1.250000
	0.400000	0.100000	-1.100000

answer65			
	$\begin{bmatrix} -0.000000 \\ 0.111111 \end{bmatrix}$	0.131579	-0.157895
	0.111111	-0.175439	0.099415
	-0.000000	-0.210526	0.052632
answer66	_		_
answeroo	[-0.107692	-0.123077	0.015385
	-0.089744	0.064103	0.179487
	$\begin{bmatrix} -0.107692 \\ -0.089744 \\ 0.069231 \end{bmatrix}$	0.007692	0.061538
	L 31333-3-	0.00.00	0.00_00_
answer67	[-0.307339]	-0.160550	-0.261468
	0.307339	-0.100330 $0.032110$	0.252294
	$\begin{bmatrix} 0.261468 \\ -0.206422 \end{bmatrix}$	-0.032110 -0.077982	-0.252294 $-0.041284$
	_0.200422	-0.011962	-0.041264]
answer68	Г		
	0.264706	-0.191176	0.397059
	-0.235294	0.058824	-0.352941
	[-0.205882]	0.426471	-0.808824
answer69			
	[1.250000]	3.500000	-4.250000
	-1.750000	-4.500000	5.750000
	2.625000	7.250000	-9.125000
answer70	_		_
allswello	$\Gamma - 0.071651$	0.171340	-0.082555
	$\begin{bmatrix} -0.071651 \\ -0.006231 \end{bmatrix}$	-0.202492	0.188474
	-0.031153	-0.012461	-0.057632
	L 0.001100	0.012101	0.00.002
answer71	[-6.333333	-5.000000	-3.333333]
	4 466667	3.600000	$\frac{-3.555555}{2.266667}$
	$\begin{bmatrix} 4.466667 \\ -1.066667 \end{bmatrix}$	-0.800000	-0.466667
	[-1.000007	-0.800000	-0.400007
answer72	F 0044840	0 050115	0 0=404= 7
	-0.044510	-0.050445	0.071217
	0.118694	-0.198813	-0.189911
	0.130564	-0.118694	-0.008902
answer73			
	-0.500000	0.000000	-0.500000
	-0.368056	-0.097222	-0.340278
	0.222222	-0.111111	0.1111111
answer74			
diswer i	[-0.058333]	0.212500	-0.050000
	$\begin{bmatrix} -0.058333 \\ -0.166667 \\ 0.008333 \end{bmatrix}$	0.250000	-0.000000
	0.008333	0.112500	0.150000
0 m grave m 7 ľ	L		J
answer75	[-0.118492]	-0.077199	-0.052065
	0.005386	-0.132855	-0.043088
	0.005380	0.156194	-0.043033 $-0.057451$
	L 0.001101	0.100134	0.001401]

answer76			
	[1.375000]	0.535714	1.250000
	1.000000	0.428571	1.000000
	-1.000000	-0.285714	-1.000000
answer77	_		_
allswei / /	$\Gamma = 0.014019$	-0.205607	-0.252336
	-0.046729	-0.018692	0.158879
	$\begin{bmatrix} -0.014019 \\ -0.046729 \\ 0.149533 \end{bmatrix}$	-0.140187	-0.308411
	L		
answer78	Γ_0 060231	-0.015385	0.100000 7
	-0.009251 $-0.153846$	-0.013303 $-0.173077$	-0.000000
	$\begin{bmatrix} -0.069231 \\ -0.153846 \\ -0.007692 \end{bmatrix}$	0.053846	-0.100000
	0.007032	0.000040	0.100000
answer79	Fo 100100	0.004001	0.150005 7
	0.102190	0.094891	0.153285
		-0.083942	0.018248
	0.135036	0.018248	-0.047445
answer80	_		_
	0.088000	-0.104000	-0.184000
	0.024000	0.108000	0.268000
	[-0.032000]	-0.144000	-0.024000
answer81			
ans word	[-0.251534]	0.386503	0.147239
	-0.386503	0.398773	0.104294
	$\begin{bmatrix} -0.251534 \\ -0.386503 \\ 0.239264 \end{bmatrix}$	-0.294479	0.030675
amarram01	_		_
answer82	Γ_0 168067	-0.105042	-0.088235
	-0.008403	-0.130252	-0.029412
	$\begin{bmatrix} -0.168067 \\ -0.008403 \\ -0.243697 \end{bmatrix}$	-0.277311	-0.352941
	L 0.210001	0.211011	0.002011]
answer83	Γ ο οξ4545	-0.090909	-0.272727
	-0.054545 $0.072727$	-0.090909 $-0.545455$	-0.212121 $-0.636364$
	0.072727	-0.545455 $-0.727273$	
	0.103030	-0.121213	-1.181818
answer84	Г 0 010000	0.040000	0 04 15 157
	-0.210909	0.040000	-0.014545
	0.003636	0.120000	0.138182
	$\lfloor -0.181818$	-0.000000	0.090909
answer85			
	0.027687	-0.094463	-0.123779
	-0.141694	0.071661	0.162866
	-0.092834	0.081433	0.003257
answer86			_
4110 1101 00	[-7.000000	4.000000	-8.000000
	7.500000	-4.500000	8.000000
	4.500000	-2.500000	5.000000
	L		7

0.7			
answer87	0.052463	0.070664	0.066381 7
	-0.069593	0.089936	-0.006424
	0.091006	-0.040685	-0.068522
	[ 0.031000	0.04000	0.000522
answer88	Г 1 222222	4 000000	
	-1.333333	-1.333333	-0.833333
	0.944444	1.111111	0.527778
	-0.055556	0.111111	0.027778
answer89			
	0.166667	0.333333	0.400000
	-0.416667	-0.333333	-0.700000
	$\begin{bmatrix} -0.416667 \\ -1.000000 \end{bmatrix}$	-1.000000	-1.600000
answer90	_		_
aliswei 90	[0.030588]	-0.057647	0.032941
	<b>I</b>	0.097647	0.087059
	0.103529	0.074118	-0.042353
	[0.100020	0.07 1110	0.012000]
answer91	Γ ο οποσιο	0.001159	0.000700.7
	-0.053619		0.006702
	0.029491	0.150134	-0.128686
	$\lfloor -0.104558$	-0.077748	0.138070
answer 92	_		_
	0.085047	0.006542	0.116822
	-0.040187	0.073832	0.032710
	-0.057009	-0.081308	-0.023364
answer93	_		_
answer 55	[-0.366667]	0.133333	-0.222222
	0.177778	-0.155556	0.148148
	-0.422222	0.244444	-0.185185
	L 31111111	0.2	000-00]
answer94	Γ-0.067308	-0.225962	-0.370192
	0.057692	-0.223902 $-0.163462$	$\begin{bmatrix} -0.370192 \\ -0.182692 \end{bmatrix}$
	<b>I</b>	-0.103402 $0.173077$	
	0.115385	0.175077	0.134615
answer95	<b>-</b>		
	-0.224490	0.122449	0.163265
	-0.489796	0.448980	0.265306
	0.253061	-0.265306	-0.220408
answer96			
ans were	[0.211055]	-0.113065	-0.077889
	-0.025126	0.120603	-0.050251
	-0.030151	-0.055276	-0.060302
07	L		
answer97	[-0.379747]	0.088608	-0.208861
	0.025316	-0.139241	0.113924
	$\begin{bmatrix} 0.025310 \\ -0.493671 \end{bmatrix}$	-0.139241 $0.215190$	$\begin{bmatrix} 0.113924 \\ -0.221519 \end{bmatrix}$
	L 0.499011	0.210100	0.221019

```
answer98
                    0.145933
                               0.119617
                                          -0.107656
                    0.090909
                               0.090909
                                          -0.181818
                    0.057416
                               -0.100478
                                          -0.009569
answer99
                     -0.037313
                                 0.126866
                                            0.074627
                     -0.014925
                                -0.149254
                                            0.029851
                     0.208955
                                 0.089552
                                            0.082090
answer100
                     [0.307692]
                                           0.230769
                               -0.230769
                     0.335664
                               -0.160839
                                          0.433566
                     0.188811
                              -0.027972 \quad 0.118881
answer101
              [0.067475]
                         -0.088034
                                     0.173959
                                                 0.071165
              0.013969
                         0.087243
                                     0.028202
                                                 0.034265
              0.139958
                        -0.069320
                                     0.056141
                                                -0.090669
              0.031629
                        -0.010016
                                    -0.105957
                                                 0.002109
answer102
              24.263158
                          8.000000
                                      8.500000
                                                 9.789474
                                                 6.263158
              15.421053
                          5.000000
                                      5.500000
              5.736842
                          2.000000
                                      2.000000
                                                  2.210526
              -3.052632
                         -1.000000
                                     -1.000000
                                                 -1.157895
answer103
              -0.026042
                         -0.216797
                                     -0.009766
                                                 0.076823
              -0.210938
                         -0.143555
                                     -0.141602
                                                 -0.052734
              -0.013021
                          0.079102
                                      0.057617
                                                 -0.086589
              -0.023438
                         -0.182617
                                     -0.071289
                                                 -0.005859
answer104
              0.110285
                                    -0.028501
                                                -0.234201
                          0.115242
               -0.018587
                          0.092937
                                    -0.141264
                                                0.230483
               0.178439
                          0.107807
                                     0.156134
                                                -0.412639
              0.053284
                          0.066914
                                     0.171623
                                                -0.394052
answer105
                           0.125943
                                     0.157617
                                               -0.034691
                0.104827
                0.262443
                           0.660633
                                     0.257919
                                               -0.511312
                -0.019608
                           0.019608
                                     0.078431
                                                0.078431
                0.223982
                                               -0.203620
                           0.391403
                                     0.142534
answer106
                         -0.019056
              0.081367
                                     -0.010587
                                                 0.076528
              0.000605
                          0.159710
                                     -0.022384
                                                 0.104658
              -0.023593
                         -0.228675
                                     -0.127042
                                                 -0.081670
              0.028131
                          -0.073503
                                     -0.040835
                                                 -0.133394
```

answer107				
	$\Gamma = 0.104444$	0.016711	0.102924	-0.081276
	0.296620	0.072541	-0.212305	0.010824
	-0.199392	0.031903	0.105583	-0.018800
	$\begin{bmatrix} -0.104444 \\ 0.296620 \\ -0.199392 \\ -0.124953 \end{bmatrix}$	-0.060008	0.039499	-0.071781
answer108	_			_
ans wer roe	F 0.661790	1 160001	0.104615	1 046154 7
	$\begin{bmatrix} -0.661538 \\ 0.353846 \end{bmatrix}$	-1.169231 $1.323077$	0.184615 $-0.261538$	$\begin{bmatrix} 1.046154 \\ -0.815385 \end{bmatrix}$
	_0.333640	-2.030769	-0.201338 $0.215385$	$\frac{-0.813383}{1.553846}$
	$\begin{bmatrix} -0.001338 \\ 0.353846 \\ -0.938462 \\ -0.092308 \end{bmatrix}$	0.046154	-0.323077	0.169231
100	L 0.002000	0.010101	0.0200	0.100201
nswer109	_			_
	-0.319826	-0.195369		-0.510854
	-0.156295	-0.167873	-0.397974	-0.231548
	$\begin{bmatrix} -0.319826 \\ -0.156295 \\ -0.096237 \\ -0.064399 \end{bmatrix}$	-0.232996	-0.388567	-0.235166
	L-0.064399	-0.050651	-0.214906	-0.225036
answer110				
	[-0.069335]	$\begin{array}{c} -0.013960 \\ 0.056305 \\ 0.120056 \\ -0.193113 \end{array}$	-0.067008	0.031643
	-0.087017	0.056305	0.070265	-0.060959
	-0.003723	0.120056	-0.023732	-0.072127
	0.207538	-0.193113	0.073057	-0.228944
nswer111				
	「 0.251232	0.322660	-0.674877	0.635468
	0.093596	0.022167	-0.290640	0.295567
	-0.128079	-0.056650	0.187192	-0.088670
	$\begin{bmatrix} 0.251232 \\ 0.093596 \\ -0.128079 \\ 0.216749 \end{bmatrix}$	0.121511	-0.444992	0.509031
answer112				
	[-0.133667]	-0.135776	0.204587	0.180596
	-0.167414	-0.014237	0.141840	0.009228
	-0.080411	-0.061956	0.209860	0.169786
	$\begin{bmatrix} -0.153007 \\ -0.167414 \\ -0.080411 \\ 0.065384 \end{bmatrix}$	-0.047983	-0.003427	-0.042974
answer113				
	[-7.600000]	6.000000	-0.600000	2.200000 ]
	-4.787500	3.750000	-0.287500	1.450000
	4.275000	-3.500000	0.275000	-1.300000
	-2.662500	2.250000	-0.162500	0.950000
answer114	_			_
	[ 0.340074	0.052390	0.314338	-0.500919
	-0.077206	-0.002390 $-0.009191$	-0.055147	$\begin{bmatrix} -0.000919 \\ -0.034926 \end{bmatrix}$
	0.268382	0.222426	0.334559	-0.354779
	-0.139706	-0.040441	-0.242647	0.246324
	L			_

## ${\bf answer 115}$

-0.183290	-0.452073	-0.068005	-0.051813
0.107513	0.339378	0.167098	-0.015544
-0.087435	-0.053109	-0.039508	-0.077720
0.090026	-0.071244	-0.040803	-0.031088

# answer116

-0.071677	-0.000869	-0.126846	-0.119896
0.175065	-0.137272	-0.041703	0.056473
-0.073414	-0.006950	-0.014770	0.040834
-0.278019	0.026933	-0.067767	-0.283232

# ${\bf answer 117}$

-0.444444	-0.888889	0.333333	-0.777778
0.277778	1.472222	-1.000000	1.027778
-0.611111	-2.472222	1.333333	-1.694444
-0.277778	-1.138889	0.666667	-0.694444

# ${\bf answer 118}$

0.101562	-0.061198	0.059245	-0.031901
0.204687	-0.033594	0.202734	0.029297
0.084375	-0.038021	0.132552	-0.055990
0.045312	-0.091406	0.109766	0.033203

# ${\bf answer 119}$

0.208955	0.164179	-0.552239	-0.582090
-0.129736	-0.173364	0.359357	0.509759
0.306544	0.312285	-0.442021	-0.540758
0.143513	0.041332	-0.132032	-0.174512

# ${\bf answer 120}$

0.110390	-0.099567	-0.028139	0.086580
0.090909	-0.454545	-0.454545	0.090909
0.058442	0.064935	0.279221	-0.012987
-0.134199	0.258297	0.210678	-0.007215

# answer 121

-0.048750	-0.029375	0.036250	-0.095000
0.036250	0.073125	0.101250	0.045000
-0.456250	0.096875	-0.481250	-0.325000
-0.082500	-0.011250	-0.092500	0.070000

0.173684	0.163158	0.373684	0.047368
0.343860	0.494737	0.477193	0.154386
0.580702	0.626316	0.714035	0.128070
0.398246	0.384211	0.664912	0.229825

# ${\bf answer 123}$

-0.093326	0.287330	0.354261	-0.097474	
-0.050339	0.070136	-0.025075	-0.030354	
0.075792	-0.330317	-0.344268	0.056938	
-0.056561	0.022624	0.042986	0.052036	

# answer 124

[-0.378289]	0.157895	0.269737	-0.134868
-0.401316	0.263158	0.407895	-0.203947
-1.345395	0.578947	1.072368	-0.036184
-1.365132	0.526316	1.190789	-0.095395

# answer125

0.044610	-0.052045	-0.081784	0.211896
-0.107807	-0.040892	0.030979	-0.095415
-0.130112	-0.014870	0.405204	-0.368030
0.096654	0.053903	-0.343866	0.459108

# ${\bf answer 126}$

-0.173228	0.047244	-0.078740	-0.070866
0.029528	-0.212598	-0.145669	0.068898
-0.273622	0.370079	0.216535	-0.305118
-0.204724	0.207349	0.209974	-0.144357

# answer 127

-0.066349	-0.064988	0.036747	-0.075366
0.140864	0.030282	0.014291	-0.001531
0.114665	-0.108200	-0.017353	-0.033855
0.015311	-0.061926	-0.085403	-0.097993

# answer 128

-0.112676	-0.056338	0.183099	0.070423
-0.349296	0.025352		0.118310
0.092958	0.146479		0.016901
-0.171831	0.214085	0.704225	0.332394

# answer 129

-0.285223	-0.323024	-0.687285	0.024055
0.030928	0.149485	0.201031	0.015464
-0.278351	-0.345361	-0.609278	0.060825
-0.051546	-0.082474	-0.235052	0.074227

-0.121617	-0.070600	-0.122989	0.031558
-0.003368	0.019583	-0.089560	-0.017588
0.034552	-0.052763	-0.007110	-0.041786
0.119496	0.008856	0.029562	0.068479

answer131				
	Γ_0 121294	0.028302	-0.122642	0.036837
	0.142857	0.000000	0.000000	-0.095238
	-0.293801	-0.198113	-0.141509	0.170710
	$\begin{bmatrix} -0.121294 \\ 0.142857 \\ -0.293801 \\ -0.148248 \end{bmatrix}$	-0.132075	-0.094340	0.193172
answer 132	<b>-</b>			_
	Γ 0.854251	-0.870445	0.125506	-0.578947
	-0.016194	0.125506	-0.097166	0.157895
	0.153846	-0.192308	-0.076923	0.000000
	$\begin{bmatrix} 0.854251 \\ -0.016194 \\ 0.153846 \\ -0.344130 \end{bmatrix}$	0.417004	-0.064777	0.105263
answer133				
	[-0.063303]	-0.006663	0.059020	0.080438
	-0.051642	-0.058068	-0.057116	-0.013327
	$ \begin{array}{c c} -0.051642 \\ 0.048548 \end{array} $	-0.152784	0.210376	-0.084246
	$\lfloor -0.004522$	-0.000476	0.147073	-0.065683
answer 134				
	[-0.168435]	0.137931	0.156499	-0.118037
	0.055703	-0.344828	-0.429708	-0.031830
	$\begin{bmatrix} -0.108435 \\ 0.055703 \\ 0.167772 \\ -0.106101 \end{bmatrix}$	-0.086207	-0.222812	0.011273
	[-0.106101	0.275862	0.389920	-0.082228
answer135				
	[-0.104603]	0.066946	-0.008368	0.154812
	$\begin{bmatrix} -0.104603 \\ 0.016736 \\ 0.016736 \end{bmatrix}$	-0.970711	-0.878661	0.255230
	0.016736	0.029289	0.121339	I
	$\lfloor -0.096234$	0.581590	0.552301	-0.217573
answer136				
	[-0.219203]	0.073370	0.166667	0.277174
	-0.304348 $0.250000$	0.304348	-0.000000	0.260870
	0.250000	-0.125000	0.000000	-0.250000
	0.360507	-0.339674	-0.166667	-0.505435
answer137				
	[-0.083170]	0.115460	0.150685	0.158513
	0.009785	-0.072407	0.041096	-0.489237
	0.101761	0.046967	0.027397	-0.088063
	$\lfloor -0.070450$	0.121331	-0.095890	0.522505
answer138	F			_
	0.033006	-0.006320	-0.241573	0.211376
	0.107444	0.000702	-0.084270	0.198736
	0.164326 $-0.099017$	-0.116573 $0.018961$	-0.011236 $-0.275281$	$0.009831 \\ 0.365871$
	L-0.099017	0.010901	-0.219281	0.505611]

answer139	$\begin{bmatrix} -0.097039 \\ 0.003289 \end{bmatrix}$	-0.128289	0.088816	0.046053
		-0.128289	0.088816	0.046059
	0.003280		0.000010	0.046053
	1 0.000203	$\begin{array}{c} 0.190789 \\ 0.141447 \end{array}$	0.098684	-0.17105
	0.235197	0.141447	0.055921	-0.23026
	[-0.050987]	0.042763	-0.029605	0.151316
answer140				
	0.365854	-0.414634	-0.073171	-0.12195
	$ \begin{array}{c} -0.678862 \\ -0.146341 \end{array} $	1.280488	-0.097561	0.670732
	-0.146341	0.365854	-0.170732	0.048780
	[-0.609756]	1.024390	0.121951	0.536585
answer141				
	[-0.028217]	0.049379	-0.097348	-0.07928
	-0.127540	-0.026806 $-0.115406$	-0.090011	-0.12838
	0.208804	-0.115406	-0.029628	0.236738
	$\lfloor -0.029345$	0.051354	0.098758	-0.12246
answer 142				
	0.860241	1.486747	0.050602	-0.87228
	-0.310843	-0.503614	-0.077108	0.353012
		1.077108	-0.021687	-0.69759
	0.959036	1.453012	-0.002410	-0.91084
answer 143				
	[1.277778]		0.555556	-0.44444
	-0.759259	-0.101852	-0.351852	0.314815
		0.453704	-0.296296	0.370370
	$\lfloor -0.740741$	0.351852	-0.148148	0.18518
answer144				
	0.183908	-0.011494	0.137931	0.04597'
	0.009270	-0.034854	-0.017241	0.058769
	-0.126808	0.116796	-0.224138	-0.06396
		-0.025213	0.189655	0.116982
answer145				
	0.114458	-0.060241	-0.210843	-0.09036
	-0.006024	0.108434	0.379518	0.16265
	-0.103614	-0.134940	-0.072289	-0.00241
	0.195783	-0.024096	-0.334337	-0.28614
answer146				
answer146	[-0.160943]	0.050476	-0.075714	
answer146	0.546132	-0.328093	-0.007861	-0.11832
answer146				0.018204 -0.11832 0.081092 0.083161

[-0.005446]	0.094680	0.098031	-0.074990	
0.054881	-0.031001	0.012149	-0.090490	
-0.049853	0.020528	-0.102639	0.005865	
0.028907	0.189778	-0.020318	0.013406	

## answer148

1.872659	0.398876	-0.614232	-0.372659
0.764045	0.106742	-0.314607	-0.264045
1.838951	0.342697	-0.659176	-0.338951
-0.086142	0.078652	-0.003745	0.086142

# ${\bf answer 149}$

0.019482	0.125083	0.025238	-0.041178
0.011733	-0.072393	-0.007527	-0.092982
-0.025238	0.042506	-0.078149	-0.083020
-0.133053	0.066194	0.123091	0.167589

# answer150

0.139847	-0.044798	-0.064839	-0.073239
-0.074713	-0.069850	0.083112	0.007515
0.120690	-0.029178	-0.015915	0.041114
-0.047893	-0.076334	-0.031536	0.016652

# 3 Matrix Determinant

answer1

80

answer2

-55

answer3

73

answer4

-46

answer5

2

 ${\bf answer 6}$ 

-40

 ${\bf answer7}$ 

-83

answer8	
answero	-16
answer9	44
answer10	23
answer11	19
answer12	-2
answer13	
answer14	-23
answei 14	-13
answer15	62
answer16	7
answer17	-2
answer18	12
answer19	-23
answer20	
answer21	-31
	2
answer22	59
answer23	20
answer24	15
answer25	-20

answer26	-18
answer27	65
answer28	12
answer29	-60
answer30	-79
answer31	25
answer32	17
answer33	-79
answer34	-6
answer35	82
answer36	-1
answer37	55
answer38	-23
answer39	11
answer40	-65
answer41	70
answer42	57
answer43	-2

answer44	108
answer45	61
answer46	3
answer47	70
answer48	-46
answer49	19
answer50	-108
answer51	-323
answer52	-531
answer53	-109
answer54	-597
answer55	-329
answer56	-120
answer57	-180
answer58	-299
answer59	1080
answer60	312
answer61	-108

answer 62	
answer63	167
answer oo	-54
answer64	103
answer65	11
answer66	362
answer67	257
answer68	
answer69	-69
70	-216
answer70	-780
answer71	333
answer72	-738
answer73	-455
answer74	
answer75	-117
<b>T</b> 0	-559
answer76	71
answer77	-169
answer78	-594
answer79	504

-208

-815
786
154
-142
59
-219
380
202
274
747
960
405
-297
4
365
-59
-816
1539

answer98	-842
answer99	318
answer100	784
answer101	-14202
answer102	1263
answer103	-1889
answer104	-13375
answer105	-4725
answer106	-4894
answer107	2960
answer108	-5843
answer109 answer110	-4956
answer111	563
answer112	2725
answer113	-5736
answer114	7154
answer115	5863
-	-2849

answer116	40.45
answer117	4047
answer118	-780
	1318
answer119	-302
answer120	-864
answer121	-592
answer122	-1763
answer123	
answer124	-313
answer125	2709
	-7679
answer126	-4279
answer127	-815
answer128	213
answer129	
answer130	1409
answer131	-2601
	10770
answer132	-2800
answer133	-1141

answer134	2595
answer135	-1975
answer136	2241
answer137	3594
answer138	-1064
answer139	1934
answer140	6239
answer141	-1887
answer142	-5975
answer143	385
answer144	-96
answer145	-8974
answer146	<b>-926</b>
answer147	689
answer148	6509
answer149	3856
answer150	1715