

## Ma2 Answer Sheet

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### Task 2: Assigning Vectors & Performing Operations

Part A: Complete the table below.

Mathematical Operation	MATLAB Answer/Response	Explanation of the Result
<code>Arowvector + Arowvector</code>	0 2 4 6	Matlab pluses the first 1 with the second 1 and then first 2 with the second 2 etc.
<code>Arowvector + Browvector</code>	4 3 2 1	Its 4+0 2+1 0+2 3+(-2)
<code>Arowvector + Ascalar</code>	3 4 5 6	3+0 3+1 3+2 3+3
<code>Arowvector - Arowvector</code>	0 0 0 0	1-1 2-2 3-3 4-4
<code>Arowvector - Crowvector</code>	Error	Matrix dimensions don't agree, Crowvector is 1x3 while Arowvector is 1x4
<code>Acolvector + Bcolvector</code>	-4 2 4 6	-4 +0 1+1 2+2 3+3
<code>Arowvector + Bcolvector</code>	-4 -3 -2 -1 1 2 3 4 2 3 4 5 3 4 5 6	Adds arowvector to each element of Bcolvector

Part B: Complete the table below.

Mathematical Operation	MATLAB Answer/Response	Explanation of the Operation
<code>Arowvector * Browvector</code>	Error	Have to add a dot in front of the *
<code>Arowvector .* Browvector</code>	0 2 0 -6	4*0 2*1 0*2 -2*3
<code>Arowvector * Ascalar</code>	0 3 6 9	Multiplies each element of Arowvector by 3

Arowvector .* Ascalar	0 3 6 9	Multiplies each element or Arowvector by 3
Arowvector ./ Browvector	0 0.5000 Inf -1.5000	0/4 1/2 2/0 3/-2
Arowvector ^ Ascalar	Error	Incorrect dimension
Arowvector .^ Ascalar	0 1 8 27	Raises each element of Arowvector to the power of 3

### Task 3: Compare Scalars & Vectors using Relational Operators

Step 2.

	MATLAB Answer/Response	Explanation of the Operation
a.	<b>1 1 1 1</b>	<b>1 means true and all element of Aarray is indeed greater than Barray so all four is 1 which means true.</b>
b.	<b>0 1 1 1</b>	<b>Without the ~= 1 sign the answer would be 1 0; -3 16 so the ~= returns true and false</b>
c.	<b>1 1 1 1</b>	<b>Answer_b &lt; 1 time 3 is greater than (Aarray – Answer_b) and Barray</b>
d.	<b>error</b>	<b>Dimensions don't agree</b>
e.	<b>1 0 0 1 0 0</b>	<b>Concatenate Cvector to the bottom of Barray and if it equals Carray it returns 1 otherwise 0</b>

Step 3.

	MATLAB Answer/Response	Explanation of the Operation
a.	<b>2 2</b>	<b>Any() eliminates the answers that equal 0</b>

b.	<b>1 0</b>	<b>Multiplies them together and eliminates elements that equal 0</b>
c.	<b>0 1</b>	<b>Declares if all of Carray is greater than 1</b>
d.	<b>1</b>	<b>Determines if any of the answers equal 0 and eliminate them then determines if all of the answers are nonzero or true.</b>
e.	<b>1 64 4096</b>	<b>find non zeros in Barray to the power of elements in Carray that is greater than 5</b>
f.	<b>1 3</b>	<b>Find elemnts in Darray that equals 1</b>