Homework Quiz 2

Due 6 Oct at 6:00

Points 150

Questions 15

Available 29 Sep at 6:00 - 6 Oct at 6:00

Time limit None

This quiz was locked 6 Oct at 6:00.

Attempt history

	Attempt	Time	Score
LATEST	Attempt 1	120 minutes	140 out of 150

Score for this quiz: 140 out of 150

Submitted 4 Oct at 18:23

This attempt took 120 minutes.

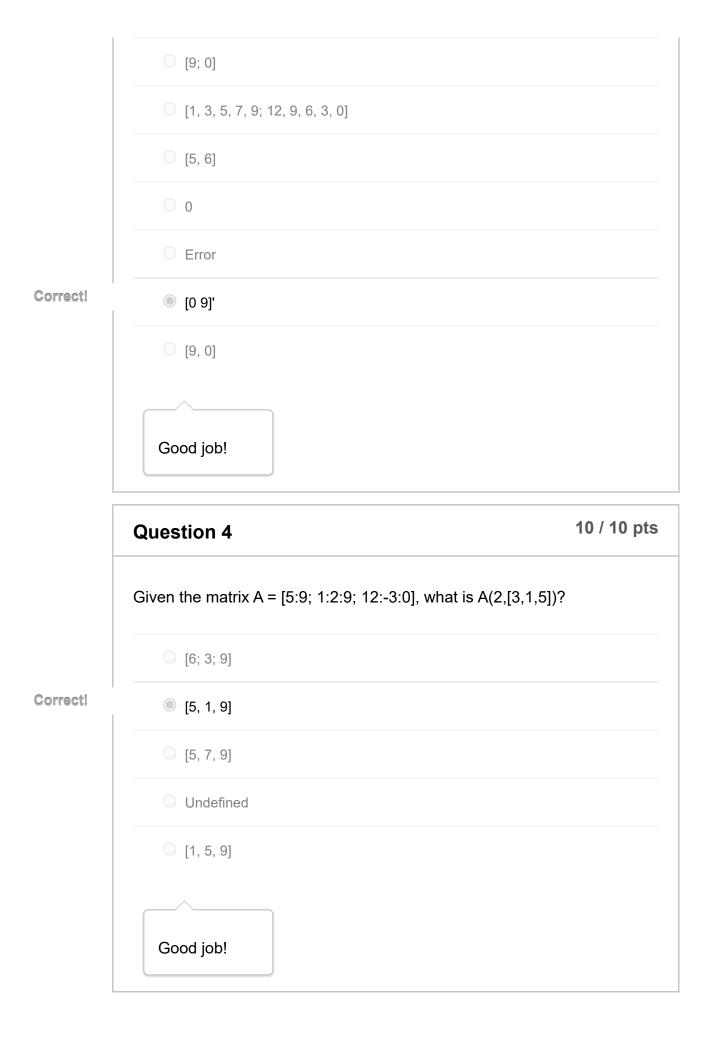
	Question 1	10 / 10 pts		
Correct!	How many elements are in the row vector produced by the MATLAB expression 15:3.3:1?			
	○ 3			
	○ 2			
	O			
	O 5			
	O 4			
	Undefined (error)			

Good job!

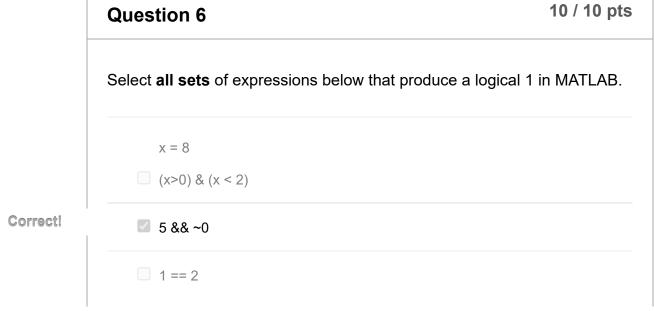
	Question 2	10 / 10 pts
	Pick all MATLAB commands that produce the column vector:	$\begin{bmatrix} 5\\10\\15\\20 \end{bmatrix}$
Correct!	√ (5:5:20)'	
Correct!	[5; 10; 15; 20]	
	5:5:20'	
Correct!	[5:5:23]'	
Correct!	[5, 10, 15, 20] [']	
	5:5:20	
	(5:20)'	
	Good	

Question 3 10 / 10 pts

Given the matrix A = [5:9; 1:2:9; 12:-3:0], select the MATLAB expression that would produce the same result as the expression A([3,2],5).



Question 5 10 / 10 pts Given the arrays $x = [1 \ 5 \ 2 \ 8 \ 9 \ 0 \ 1]$ and $y = [5 \ 2 \ 2 \ 6 \ 0 \ 0 \ 2]$, what is (x > y)(y < x)? [1111001] [0000100] [0000001] [1010011] [0010010] [0000000] Correct! [0 1 0 1 1 0 0] Good job!



Correct!

$$b = 5$$

$$\Box$$
 (b ~= 0) && (a/b > 18.5)

Good job!

Question 7

10 / 10 pts

For A = [1, -1; -2, 3] and B = [4, 2; 3, -4], what is A+B?

- [4, -2; -6, -12]
- Correct!
- [5, 1; 1, -1]
- [1, 6; 1, -16]
- [5, 1, 1, -1]

Question 8

10 / 10 pts

For A = [3, -2; -5, 1] and B = [2, -2; 0, 4], what is $A \cdot B$?

- [6, -14; -10, 14]
- [2, -6; -1, 5]
- [3, -4; -2, 4]

Correct!

[6, 4; 0, 4]

Question 9

10 / 10 pts

For any matrix A of the appropriate size, which command will swap the first and second-to-last rows?

A([end-1 1],:)

Correct!

- \bigcirc A([1 end-1],:) = A([end-1 1],:)
- \bigcirc A(:,[1 end-1]) = A(:,[end-1 1])
- A(:,[end-1 1])

Good job!

Question 10

10 / 10 pts

For any matrix A of the appropriate size, which command will put all 7's in the third column?

Correct!

$$A(:,3) = 7$$

$$\bigcirc$$
 A(3,:) = 7

$$\bigcirc$$
 A(:,3) = 7.*ones(size(A))

$$\bigcirc$$
 A(3,:) = 7.*ones(size(A(3,:)))

Good job!

Question 11

10 / 10 pts

For a matrix A of size 4x4 select **all** MATLAB commands that will make the entries of the first column equal to the entries of the first row:

Correct!

- A(2:end,size(A,1)-3) = A(1,size(A,2)-2:size(A,2))
- A(:,end-4) = A(1,:)

Correct!

- A(end-2:end,1) = A(1,end-2:end)'
- A(1,:) = A(:,size(A)-3)

Correct!

A(size(A,1)-2:end,size(A,2)-3) = A(end-3,2:4)'

Great job!

Question 12

10 / 10 pts

For any matrix A of the appropriate size, which command will subtract 3 times the first row from the third row and replace the third row with the difference?

- \bigcirc A(3,:) = 3*A(3,:) 3 * A(1,:)
- \bigcirc A(3,:) = A(1,:) 3 * A(1,:)

 \bigcirc A(3,:) = A(3,:) - 3 * A(1,:)

Correct!

$$A(:,3) = A(:,3) - 3 * A(:,1)$$

$$A(1,:) = A(1,:) - 3 * A(3,:)$$

Good job!

Question 13

10 / 10 pts

For the linear system of equations:

$$\begin{array}{rcl}
-2x_1 + 5x_2 + x_3 + 3x_4 + 4x_5 - x_6 & = & 0 \\
2x_1 - x_2 - 5x_3 - 2x_4 + 6x_5 + 4x_6 & = & 1 \\
-x_1 + 6x_2 - 4x_3 - 5x_4 + 3x_5 - x_6 & = & -6 \\
4x_1 + 3x_2 - 6x_3 - 5x_4 - 2x_5 - 2x_6 & = & 10 \\
-3x_1 + 6x_2 + 4x_3 + 2x_4 - 6x_5 + 4x_6 & = & -6 \\
2x_1 + 4x_2 + 4x_3 + 4x_4 + 5x_5 - 4x_6 & = & -2
\end{array}$$

What is $x_1 + x_2 - x_3 - x_4 + x_5 - x_6$? Use MATLAB to find the answer.

Please enter your answer as a decimal (not a fraction) accurate to at least 2 decimal places.

Correct!

0.46

orrect Answers

Between 0.45 and 0.465

Good job!

Question 14

0 / 10 pts

For the system given below, find $x_1 + x_2 + x_3$ using MATLAB.

$$egin{array}{l} 3x_1+2x_3=x_2\ 6x_1+3x_2+2=7x_3\ 9x_2+2x_1=4x_3+3 \end{array}$$

Please enter your answer as a decimal (not a fraction) accurate to at least 2 decimal places.

ou Answered

0.57

orrect Answers

0.8745 (with margin: 0.1)

Construct A and b in MATLAB, compute A\b, and find the sum of the solutions.

Question 15

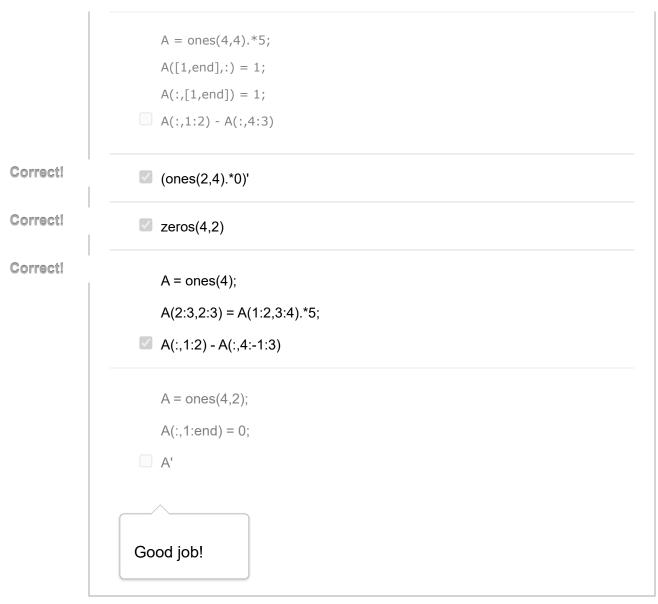
10 / 10 pts

Select **all sets** of expressions below that produce the same result in MATLAB.

Correct!

$$A = zeros(10,5)';$$

A(1:2,4:7)'



Quiz score: 140 out of 150