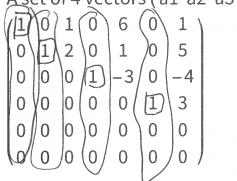
ID #: Name:

Show your work. Fill in the appropriate blanks

A set of 4 yectors (a1 a2 a3 a4 a5 a6 b) row reduces to



$$x_1 = 1 - x_3 - 6x_5$$

 $x_2 = 5 - 2x_3 - 1x_5$
 x_3 Free
 $x_4 = -4 + 3x_5$
 x_5 Free
 $x_6 = 3$

- Q1) Circle pivot columns and put a box around pivot entries.
- Q2) Are the vectors (a1 a2 a3 a4 a5 a6) L1?

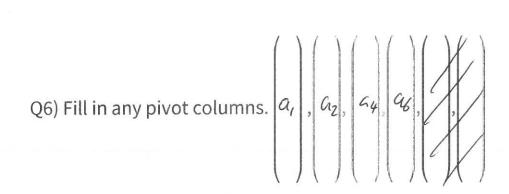
NO

Q3) The pivot variables are

Q4) The free variables are

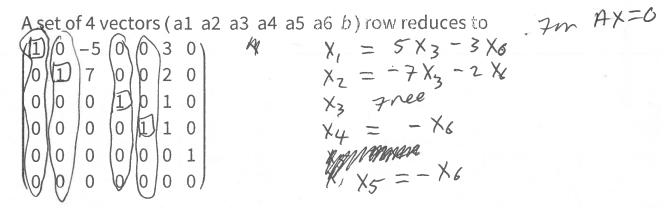
Q5) Write down a formula for all solutions to Ax = b.

$$X = \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \\ x_6 \end{pmatrix} = \begin{pmatrix} 1 \\ 5 \\ 0 \\ -4 \\ 0 \\ 3 \end{pmatrix} + \begin{bmatrix} 1 \\ -1 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} + \begin{bmatrix} -6 \\ -1 \\ 0 \\ 3 \\ 1 \\ 0 \\ 0 \end{pmatrix} + \begin{bmatrix} -6 \\ -1 \\ 0 \\ 3 \\ 1 \\ 0 \\ 0 \end{pmatrix}$$



Q7) Write down two different non-trivial solutions to
$$Ax = 0$$
. $\begin{bmatrix} -2 \\ 0 \\ 0 \\ 0 \end{bmatrix}$

Name:	ID #:
Show your work. Fill in the appropriate	blanks



- Q1) Circle pivot columns and put a box around pivot entries.
- Q2) Are the vectors (a1 a2 a3 a4 a5 a6) LI?
- Q3) The pivot variables are 1, 2, 4, 5
- Q4) The free variables are 3,6

Q5) Write down a formula for all solutions to
$$Ax = 0$$
.

$$x = \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} + \begin{vmatrix} 5 \\ 7 \\ 1 \\ 0 \\ 0 \end{pmatrix} + \begin{vmatrix} 3 \\ 7 \\ 1 \\ 0 \\ 0 \end{pmatrix} + \begin{vmatrix} 3 \\ 7 \\ 1 \\ 0 \\ 0 \\ 0 \end{pmatrix} + \begin{vmatrix} 3 \\ 7 \\ 1 \\ 0 \\ 0 \\ 0 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \\ 1 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7 \\ 1 \end{vmatrix} + \begin{vmatrix} 4 \\ 7$$

- Q6) Fill in any pivot columns. $\left(a_{1}\right), \left(a_{2}\right), \left(a_{4}\right), \left(a_{5}\right), \left(a_{7}\right), \left(a_{8}\right), \left(a_{8}\right), \left(a_{1}\right), \left(a_{1}\right), \left(a_{2}\right), \left(a_{2}\right), \left(a_{3}\right), \left(a_{4}\right), \left(a_{5}\right), \left(a_{1}\right), \left(a_{2}\right), \left(a_{2}\right), \left(a_{3}\right), \left(a_{4}\right), \left(a_{5}\right), \left(a_{1}\right), \left(a_{2}\right), \left(a_{2}\right), \left(a_{3}\right), \left(a_{4}\right), \left(a_{5}\right), \left(a_{5}\right),$
- Q7) Write down two different non-trivial solutions to Ax = 0. $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$
- Q8) Explain why Ax = b has no solution. No sbln becase

 2nd list reclaced eq

 0x, + 0x2 + 0x3 + 0x4 + 0x5 + 0x5 = 1

 0x, + 0x2 + 0x3 + 0x4 + 0x5 + 0 incms bent

 hes no seln.

 Ax = b is incms bent

 Amas system In Ax = b