1, 3, 6, 8, 9, 13, 14, 18, 23, 29, 32, S.1 2.2

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2.2 Homework

1. $A^{-1} = \begin{bmatrix} 2 & -3 \\ -5/2 & 4 \end{bmatrix}$

3. $A^{-1} = \begin{bmatrix} 1 & 1 \\ -7/5 & -8/5 \end{bmatrix}$

6. $x = A^{-1}b \quad \begin{bmatrix} 1 & 1 \\ -7/5 & -8/5 \end{bmatrix} \begin{bmatrix} -9 \\ 11 \end{bmatrix} = \begin{bmatrix} 2 \\ -15 \end{bmatrix}$

8. $A^{-1}AD = A^{-1}I$

$ID = A^{-1}$

$D = A^{-1}$

9. a. True pg. 103
b. False Thm 6.
c. False Thm 4
d. True Thm 5
e. True pg. 107

13. $A^{-1}AB = A^{-1}AC$

$IB = IC$

$B = C$

1, 23, 24, 32

14. $(B-C)DD^{-1} = OD^{-1}$

$(B-C)I = O$

$B-C = O$

$B = C$

18. $P^{-1}A = P^{-1}PBP^{-1}$

$P^{-1}A = IBP^{-1}$

$P^{-1}A = BP^{-1}$

$P^{-1}AP = BP^{-1}P$

$P^{-1}AP = BI$

$P^{-1}AP = B$

$B = P^{-1}AP$

23. $A = n \times n$ identity matrix because

$n \times n$ = square

$Ax = 0$ with only trivial = $[I \; 0] = I_n$

29. $A^{-1} = \begin{bmatrix} -7 & 2 \\ 4 & -1 \end{bmatrix}$

32. A ≠ invertable

2.2 S.T

$Ax = 0$ with only trivial solution
= independent
else dependent