

Section 3.5

Additional Problems

1. 37.

3. 22.

5. 24.

7. -32.

9. -12.

11. -6.

13. -8.

15. $\det(A)$ not defined, $\det(C) = -18$, $\det(AB) = 474$, $\det(ACB) = 4104$.

$$17. A^{-1} = \begin{bmatrix} \frac{4}{7} & \frac{1}{7} & -\frac{1}{7} \\ -\frac{1}{28} & \frac{5}{28} & \frac{1}{14} \\ -\frac{5}{28} & -\frac{3}{28} & \frac{5}{14} \end{bmatrix}.$$

$$19. A^{-1} = \begin{bmatrix} -\frac{11}{6} & -\frac{2}{3} & -\frac{1}{3} & \frac{1}{12} \\ \frac{1}{2} & -\frac{1}{4} & -\frac{1}{4} & -\frac{1}{8} \\ \frac{5}{6} & \frac{5}{12} & \frac{1}{12} & \frac{1}{24} \\ 1 & 0 & 0 & 0 \end{bmatrix}.$$

$$21. A^{-1} = \begin{bmatrix} \frac{7}{2} & 0 & -3 \\ -1 & 1 & 0 \\ 0 & -1 & 1 \end{bmatrix}.$$

23. False.

25. (a) $k = 0, 4$.

(b) $|4k - k^2|$, Yes.

29. $(-\frac{5}{7}, \frac{6}{7})$.

31. $(\frac{1}{2}, \frac{1}{2}, -\frac{3}{2})$.