Systems of 3 Equations

Elimination Method

A $3x + y + z = 14$
B $-x + 2y - 3z = -9$
C $5x - y + 5z = 30$

A: $3x + y + z = 14$
C: $5x - y + 5z = 30$
D: $8x + 6z = 44$

B: $-x + 2y - 3z = -9$
C·2: $10x - 2y + 10z = 60$
E: $9x + 7z = 51$

D: $8x + 6z = 44$ $\xrightarrow{\text{M}(7)}$ $56x + 42z = 308$
E: $9x + 7z = 51$ $\xrightarrow{\text{M}(-6)}$ $-54x - 42z = -306$

$2x = 2$
$x = 1$

E: $9(1) + 7z = 51$
$7z = 42$
$z = 6$

A: $3x + y + z = 14$
$3(1) + y + 6 = 14$
$y = 5$

$(1, 5, 6)$

p. 182/ # 3 - 5, 9 - 12, 15 - 17, 21, 22, 42 or

p. 183/ # 28, 29, 39, 40, 48