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### 1.4 Extra Practice

In Exercises 1-4, solve the system using the elimination method.

1. $3 x-y+z=-1$
$3 x+2 y-5 z=-16$
$3 x+3 y+2 z=6$
2. $x-y-z=5$
$4 x-4 y-4 z=15$
$3 x-y-4 z=-2$
3. $4 x+3 y-5 z=-9$
$6 x+6 y-3 z=6$
$3 x-3 y+4 z=19$
4. $-x+y+z=3$
$x+y+3 z=5$
$3 y+6 z=12$
5. Describe and correct the error in the first step of solving the system of linear equations.
$5 x+3 y-z=15$
$-x+2 y+3 z=10$
$3 x-4 y+3 z=8$

$$
\text { X } \begin{aligned}
-15 x-9 y-3 z & =45 \\
3 x-4 y+3 z & =8 \\
\hline-12-13 y & =53
\end{aligned}
$$

6. Three orders are placed at a food truck. One sandwich, a juice, and a fruit cup cost \$9; two sandwiches, a juice, and two fruit cups cost \$16.50; and three sandwiches, two juices, and a fruit cup cost $\$ 19$. How much does each item cost?

In Exercises 7 and 8, solve the system of linear equations using the substitution method.
7. $2 x-y=6$
$4 x-3 y-2 z=14$
$-x+2 y-3 z=12$
8. $6 x+3 y-9 z=10$
$-2 x-y+3 z=3$
$x-2 y-z=1$
9. Your friend claims that she has a bag of 30 coins containing nickels, dimes, and quarters. The total value of the 30 coins is $\$ 3$. There are twice as many nickels as there are dimes. Is your friend correct? Explain your reasoning.
10. Find the values of $a, b$, and $c$ so that the linear system shown has $(2,-1,-4)$ as its only solution. Explain your reasoning.

$$
\begin{aligned}
& x+3 y-z=a \\
& 2 x-5 y+2 z=b \\
& -x+8 y-z=c
\end{aligned}
$$

