

Name _____

5-4B Lesson Master**Questions on SPUR Objectives**

See Student Edition pages 367–371 for objectives.

SKILLS Objective A

In 1–8, solve the system using the linear combination method.

1.
$$\begin{cases} 4x + y = -12 \\ 2x + 2y = -15 \end{cases}$$

2.
$$\begin{cases} 4x + 5y = 3 \\ 5x - 2y = 2.1 \end{cases}$$

3.
$$\begin{cases} 2a + b - 5c = -21 \\ a + 2b - 2c = -15 \\ a - 4b + c = 18 \end{cases}$$

4.
$$\begin{cases} 8m - 2n = -16 \\ 2m - 0.5n = -4 \end{cases}$$

5.
$$\begin{cases} 12x^2 - 5y^2 = 523 \\ 6x^2 + 2y^2 = 482 \end{cases}$$

6.
$$\begin{cases} 4x + 5y = -14 \\ 8x + 10y = -20 \end{cases}$$

7.
$$\begin{cases} \frac{1}{4}x - y = -8 \\ \frac{1}{2}x + 4y = 14 \end{cases}$$

8.
$$\begin{cases} d + 9e - f = 13 \\ 3d + e + 2f = -7 \\ 2d + e + 2f = -7 \end{cases}$$

PROPERTIES Objective DIn 9 and 10, consider the system
$$\begin{cases} 5x + 15y = -10 \\ x + 3y = k \end{cases}$$
.9. For what value(s) of k will the system have infinitely many solutions? _____10. For what value(s) of k will the system be inconsistent? _____In 11 and 12, consider the system
$$\begin{cases} 12x + 6y = k \\ 2x + y = 9 \end{cases}$$
.11. For what values of k will the system be inconsistent? _____12. For what values of k will the system have infinitely many solutions? _____In 13 and 14, consider the system
$$\begin{cases} -10x + 4y = -9 \\ -5x + 2y = k \end{cases}$$
.13. For what value(s) of k will the system have infinitely many solutions? _____14. For what value(s) of k will the system be inconsistent? _____

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In 15–18, refer to the system below. While solving the system on a CAS, suppose you have stored the first equation as eq1 and the second equation as eq2. Tell which variable would be eliminated if you entered each of these expressions.

$$\begin{cases} 5x + 4y = -0.7 \\ 15x + 6y = -1.2 \end{cases}$$

15. $-6\text{eq1} + 4\text{eq2}$ _____

16. $\text{eq1} + -(1/3)\text{eq2}$ _____

17. $-3\text{eq1} + \text{eq2}$ _____

18. $1.5\text{eq1} - \text{eq2}$ _____

USES Objective F

19. Five yards of fabric and three spools of thread cost \$40.12. Two yards of the same fabric and ten spools of the same thread cost \$23.88. Find the cost of a yard of fabric and the cost of a spool of thread.

Fabric _____ Thread _____

20. At a restaurant, four hamburgers and two orders of fries cost \$27.10. Three hamburgers and four orders of fries cost \$25.20. If all hamburgers cost the same price and all orders of fries cost the same price, find the cost of each.

Hamburgers _____ Fries _____

21. Two apples and six plums provide 300 calories. Three apples and five plums provide 350 calories. How many calories are provided by five apples and eight plums? _____

22. Three pounds of pears and a pound of grapes cost \$4.36. Five pounds of pears and two pounds of grapes cost \$7.93. Find the cost of six pounds of pears and four pounds of grapes. _____

REVIEW Lesson 4-3, Objective C

In 23 and 24, calculate the product.

23. $\begin{bmatrix} \frac{3}{4} & 1 \\ 3 & -1 \end{bmatrix} \begin{bmatrix} 8 & 12 \\ 0 & -2 \end{bmatrix}$

24. $\begin{bmatrix} -3 & -1 \\ 2 & 4 \end{bmatrix} \begin{bmatrix} 0 & 2 & -5 & 0 \\ 7 & 1 & -2 & 5 \end{bmatrix}$