NAME _____ DATE _____ PERIOD _____

7-2 Practice (Average)

Substitution

Use substitution to solve each system of equations. If the system does *not* have exactly one solution, state whether it has *no* solution or *infinitely many* solutions.

1. $y = 6x$
$2x + 3y = -20$ **(−1, −6)**

2. $x = 3y$
$3x - 5y = 12$ **(9, 3)**

3. $x = 2y + 7$
$x = y + 4$ **(1, −3)**

4. $y = 2x - 2$
$y = x + 2$ **(4, 6)**

5. $y = 2x + 6$
$2x - y = 2$ **no solution**

6. $3x + y = 12$
$y = -x - 2$ **(7, −9)**

7. $x + 2y = 13$ **(−3, 8)**
$-2x - 3y = -18$

8. $x - 2y = 3$ **infinitely many**
$4x - 8y = 12$

9. $x - 5y = 36$ **(−4, −8)**
$2x + y = -16$

10. $2x - 3y = -24$
$x + 6y = 18$ **(−6, 4)**

11. $x + 14y = 84$
$2x - 7y = -7$ **(14, 5)**

12. $0.3x - 0.2y = 0.5$
$x - 2y = -5$ **(5, 5)**

13. $0.5x + 4y = -1$
$x + 2.5y = 3.5$ **(6, −1)**

14. $3x - 2y = 11$
$x - \frac{1}{2}y = 4$ **(5, 2)**

15. $\frac{1}{2}x + 2y = 12$
$x - 2y = 6$ **(12, 3)**

16. $\frac{1}{3}x - y = 3$
$2x + y = 25$
(12, 1)

17. $4x - 5y = -7$
$y = 5x$
$\left(\frac{1}{3}, 1\frac{2}{3}\right)$

18. $x - 3y = -4$
$2x + 6y = 5$
$\left(-\frac{3}{4}, 1\frac{1}{12}\right)$

EMPLOYMENT For Exercises 19–21, use the following information.

Kenisha sells athletic shoes part-time at a department store. She can earn either \$500 per month plus a 4% commission on her total sales, or \$400 per month plus a 5% commission on total sales.

19. Write a system of equations to represent the situation.
$y = 0.04x + 500$ and $y = 0.05x + 400$

20. What is the total price of the athletic shoes Kenisha needs to sell to earn the same income from each pay scale? **\$10,000**

21. Which is the better offer? **the first offer if she expects to sell less than \$10,000 in shoes, and the second offer if she expects to sell more than \$10,000 in shoes**

MOVIE TICKETS For Exercises 22 and 23, use the following information.

Tickets to a movie cost \$7.25 for adults and \$5.50 for students. A group of friends purchased 8 tickets for \$52.75.

22. Write a system of equations to represent the situation.
$x + y = 8$ and $7.25x + 5.5y = 52.75$

23. How many adult tickets and student tickets were purchased? **5 adult and 3 student**