

Practice Test Chapter 7

Date _____ Period ____ Score _____

State if the point given is a solution to the system of equations.

1) $2x^2 + y^2 + 12x - 6y + 9 = 0$
 $2x^2 + y^2 - 2x - 6y - 75 = 0$
 Point: $(-6, 3)$

Solve each system of equations.

2) $y = -8x + 4$
 $y = -x - 3$

3) $3x - 4y = -4$
 $3x - 4y = 12$

4) $-x = -4 + 2y$
 $0 = 4 + x$

5) $-5x - 3y = -12$
 $9x + 3y = 0$

6) $-9x - 15y = 21$
 $3x + 5y = -7$

7) $5x - 10y = 5$
 $4x + 8y = 20$

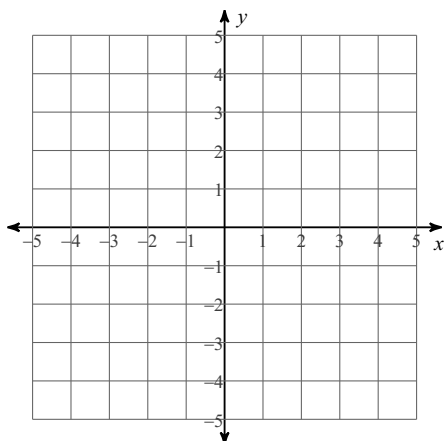
8) $6x - 2y + 2z = -16$
 $-2x - y + 4z = 29$
 $-x + y + 2z = 10$

9) $-6x - 4y - z = -8$
 $3x - 6y - 6z = -15$
 $-2x - 5y + 4z = -26$

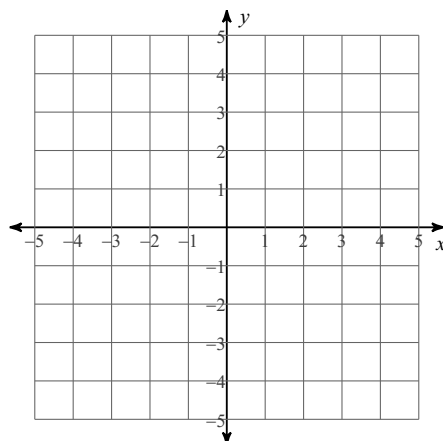
10) $-4y^2 - 3x - 2y + 60 = 0$
 $x - 2y = 0$

Sketch the solution to each system of inequalities.

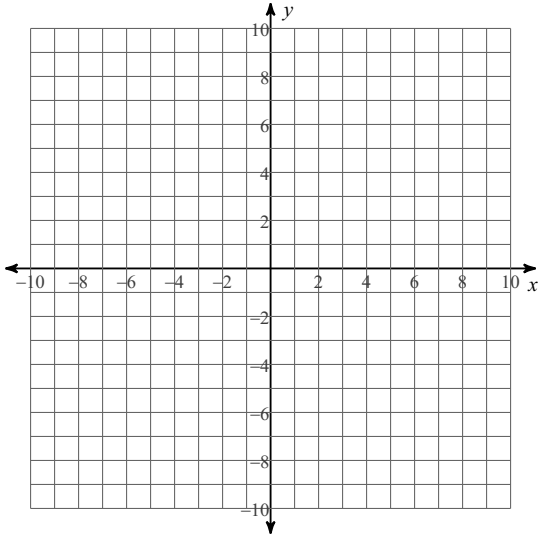
11) $y > -x - 1$
 $y \geq -4x + 2$



12) $x - 3y \geq -9$
 $4x + 3y > -6$



13) $x + y \leq 8$
 $15x - y > 8$



Find the partial fraction decomposition of each.

14) $\frac{-3x - 18}{(x + 5)(x + 2)}$

15) $\frac{7x + 2}{x^2 + 2x + 1}$

16) $\frac{-x^3 + 8 + 5x^2}{x^3 + 4x - 3x^2 - 12}$

17) Carlos and Emily each improved their yards by planting grass sod and shrubs. They bought their supplies from the same store. Carlos spent \$63 on 4 ft² of grass sod and 3 shrubs. Emily spent \$36 on 1 ft² of grass sod and 3 shrubs. What is the cost of one ft² of grass sod and the cost of one shrub?

18) Eduardo and Ming each improved their yards by planting grass sod and shrubs. They bought their supplies from the same store. Eduardo spent \$60 on 4 ft² of grass sod and 4 shrubs. Ming spent \$132 on 12 ft² of grass sod and 6 shrubs. What is the cost of one ft² of grass sod and the cost of one shrub?

19) Yellowstone National Park is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 13 vans and 2 buses with 178 students. High School B rented and filled 10 vans and 13 buses with 710 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

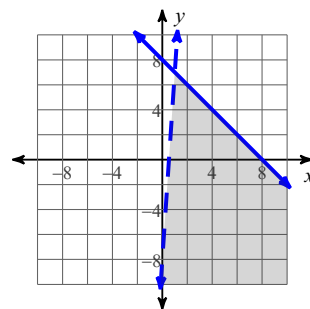
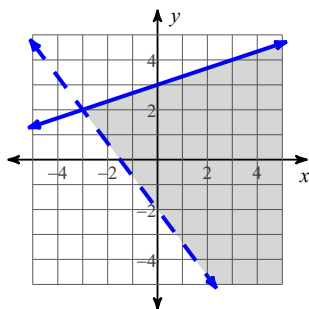
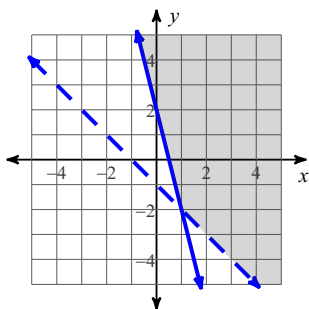
20) Find the equilibrium point along with the consumer surplus and producer surplus for the following equations.

Demand: $p = 80 - 4x$

Supply: $p = 6x$

Answers to Practice Test Chapter 7 (ID: 1)

- 1) Yes 2) $(1, -4)$ 3) No solution 4) $(-4, 4)$
 5) $(-3, 9)$ 6) $(a, -3/5a - 7/5)$ or $(-5/3a - 7/3, a)$ 7) $(3, 1)$
 8) $(-5, -3, 4)$ 9) $(-1, 4, -2)$ 10) $(6, 3), (-10, -5)$
 11) 12) 13)



14) $\frac{1}{x+5} - \frac{4}{x+2}$ 15) $\frac{7}{x+1} - \frac{5}{(x+1)^2}$ 16) $-1 + \frac{2}{x-3} + \frac{4}{x^2+4}$

- 17) ft² of grass sod: \$9, shrub: \$9 18) ft² of grass sod: \$7, shrub: \$8
 19) Van: 6, Bus: 50
 20) $(8, 48)$ consumer surplus = \$128 producer surplus = \$192