

For 1 – 4, solve the system algebraically (Substitution or Elimination).

1) $x + 2y = 1$
 $5x - 4y = -23$

2) $x - y = 3$
 $x - y^2 = 1$

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

4) $2x + y - z = 7$
 $x - 2y + 2z = -9$
 $3x - y + z = 5$

Sections 7.1 – 7.3 I.C.E

You can choose any method to solve the problems below- just define your variables, set up two or three equations, and then solve by the method of your choosing.

- 5) A total of \$32,000 is invested in two municipal bonds that pay 5.75% and 6.25% simple interest. The investor wants an annual interest income of \$1900 from the investments. How much should be invested in each type of bond?

- 6) Two planes start from LA International Airport and fly in opposite directions. The second plane starts one half hour after the first plane, but its speed is 80 km/hr faster. Find the airspeed of each plane if 2 hours after the first plane departs, the planes are 3200 km apart.

- 7) What are the dimensions of a rectangular tract of land if its perimeter is 40 kilometers and its area is 96 square kilometers?

Sections 7.1 – 7.3 I.C.E

- 8) Ten liters of a 30% acid solution is obtained by mixing a 20% solution with a 50% solution. How much of each solution is required to obtain the specified concentration of the final mixture?
- 9) In Super Bowl I, the Green Bay Packers defeated the Kansas City Chiefs by a score of 35 to 10. The total points scored came from 13 different scoring plays, which were a combination of touchdowns, extra-point kicks, and field goals, worth 6, 1, and 3 points respectively. The same number of touchdowns and extra point kicks were scored. There were six times as many touchdowns as field goals. How many touchdowns, extra-point kicks, and field goals were scored during the game?