

Math 80 – Some answers for Chapter 5 Homework

**Introduction to Systems of Equations – Explorations**

1. (b) Renting a paint sprayer for 15 hours from Radical Rental will cost the same as renting it from Truly Temporary. The cost for 15 hours is \$21.25.
2. (a)  $(-1/3, 4/3)$  (b)  $(9, 2)$  (c)  $(16, 2)$  (d)  $(6.5, 0.75)$
3. (b) Lana should invest \$2,236.42 in a savings account paying 2.64% APR and \$7,763.58 in a mutual fund paying 8.9% APR.
4. (a) one solution (consistent system)(b), (c), (d) no solutions (inconsistent systems)
5. (a)  $(1, 2)$  and  $(-5, 14)$  (b)  $(-0.5, 3.625)$  and  $(6, 41)$  (c) no solution

**Expanding Systems of Equations – Explorations**

1. (a)  $(3, -2, 1)$  (b)  $(1/2, -1/2, 3/2)$  (c)  $6, -2, 3)$
2. Many answers are possible. An example is given below. You cannot use this example.  
$$x + y + z = 4$$
$$x + 2y + 3z = 4$$
$$2x + 3y + 4z = 8$$
3.  $a = 2$ ;  $b = -1$ ;  $c = 5$
4. The Wood shop can produce 10 rockers, 20 chairs and 10 tables with their current employees.
5. (a)  $x = t$ ;  $y = 25 - 2t$ ;  $z = 25 + t$  (b)  $x = t$ ;  $y = 7 - 1.5t$ ;  $z = 12 - 2.5t$