

EXTRA PRACTICE — Exercises

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Unit III – First Degree Relations with Two Placeholders

Part F – Problem Solving Using Two Placeholders

Lesson 1 – General Strategy and Setup - Page 1

For each of the following story problems, answer the four analysis questions to find the system of equations needed to solve. Do not solve.

1. An apartment building contains 200 units. Some of these are one-bedroom units that rent for \$435 each month and some are two-bedroom units that rent for \$575 each month. When all the units are rented, the total monthly income is \$103,800. How many apartments of each type are there?
2. The receipts from a minor league baseball game were \$186,900, paid by 30,000 fans. Reserved seats sold for \$6.95 each and bleacher seats sold for \$5.75 each. How many seats of each type were sold?
3. An assortment of 80 post-it note pads contains some pads at \$.65 each, and some pads that are \$.50 each. If the number of \$.50 pads is one less than one-half the number of \$.65 pads, how many of each type of pad are in the assortment?
4. A local golf pro shop sells two types of gloves, a synthetic leather for \$12.95 and a non-synthetic leather for \$17.95. In one day, 22 gloves were sold and the receipts from the sale of golf gloves totalled \$324.90. How many of each type were sold?
5. A community barbeque was held to raise money for the little league program. 250 dinners were served. A child's plate cost \$3.50 and an adults plate cost \$7.00. Altogether, \$1347.50 was raised. How many of each type of plate was served?

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6. Barkley goes to a bank and gets change for a \$100 bill consisting of all \$5 bills and \$10 bills. There are 16 bills in all. How many of each kind are there?

7. Sam Doolin's truck gets 18 miles per gallon in city driving and 24 miles per gallon in highway driving. The truck is driven 465 miles on 23 gallons of gas. How many miles were driven in the city and how many were driven on the highway?

8. A local florist sold 17 hanging plants and 11 flats of petunias in one day. If a flat of petunias costs \$1.60 more than a hanging plant, and the total receipts for the sale of these plants was \$633.60. what was the cost of a hanging plant?

9. "Note Worthy" Music House paid \$975 for an order of 71 tapes and CD's. The store paid \$9 for each tape and \$16 for each CD. How many of each were purchased?

10. An airplane has a total of 152 seats. The number of coach-class seats is 5 more than 6 times the number of first-class seats. How many of each type of seat are there on the plane?

EXTRA PRACTICE — Answer Key

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For each of the following story problems, answer the four analysis questions to find the system of equations needed to solve. Do not solve.

1. $x + y = 200$

$$435x + 575y = 103,800$$

2. $R + B = 30,000$

$$\$6.95R + \$5.75B = 186,900$$

3. $x = \frac{1}{2}y - 1$

$$x + y = 80$$

4. $S + N = 22$

$$\$12.95S + \$17.95N = \$324.90$$

5. $A + C = 250$

$$7A + \$3.50C = \$1347.50$$

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6. $F + T = 16$
 $5F + 10T = 100$

7. $H + C = 465$
 $\frac{C}{18} + \frac{H}{24} = 23$

8. $y = x + \$1.60$
 $17x + 11y = \$633.60$

9. $T + C = 71$
 $9T + 16C = 975$

10. $C + F = 152$
 $C = 5 + 6F$