Math 084 W2010 Worksheet 5.4 v02
Systems of Linear Equations Exercises
Dressler

Name_____

Solve the problem.

1) The sum of two numbers is 4. Two times the first number equals 4 times the second number. Find the two numbers.

2) The sum of two numbers is –8. Five times the first number equals 4 times the second number. Find the two numbers.

3) Two numbers total –6, and their difference is 8. Find the two numbers.

4) Two numbers total –8, and their difference is 10. Find the two numbers.

5) Two numbers total 4, and their difference is 6. Find the two numbers.

6) One number is four more than a second number. Two times the first number is 6 more than four times the second number.

7) One number is four more than a second number. Two times the first number is 4 more than four times the second number.

8) Devon purchased tickets to an air show for 8 adults and 2 children. The total cost was $216. The cost of a child's ticket was $7 less than the cost of an adult's ticket. Find the price of an adult's ticket and a child's ticket.

9) Devon purchased tickets to an air show for 8 adults and 2 children. The total cost was $182. The cost of a child's ticket was $4 less than the cost of an adult's ticket. Find the price of an adult's ticket and a child's ticket.

10) Jamil always throws loose change into a pencil holder on his desk and takes it out every two weeks. This time it is all nickels and dimes. There are 4 times as many dimes as nickels, and the value of the dimes is $3.85 more than the value of the nickels. How many nickels and dimes does Jamil have?

11) Jamil always throws loose change into a pencil holder on his desk and takes it out every two weeks. This time it is all nickels and dimes. There are 3 times as many dimes as nickels, and the value of the dimes is $2.00 more than the value of the nickels. How many nickels and dimes does Jamil have?

12) On a buying trip in Los Angeles, Rosaria Perez ordered 120 pieces of jewelry: a number of bracelets at $6 each and a number of necklaces at $15 each. She wrote a check for $1170 to pay for the order. How many bracelets and how many necklaces did Rosaria purchase?

13) On a buying trip in Los Angeles, Rosaria Perez ordered 120 pieces of jewelry: a number of bracelets at $6 each and a number of necklaces at $15 each. She wrote a check for $1440 to pay for the order. How many bracelets and how many necklaces did Rosaria purchase?

14) Julie and Eric row their boat (at a constant speed) 55 miles downstream for 5 hours, helped by the current. Rowing at the same rate, the trip back against the current takes 11 hours. Find the rate of the current.

15) Julie and Eric row their boat (at a constant speed) 60 miles downstream for 6 hours, helped by the current. Rowing at the same rate, the trip back against the current takes 10 hours. Find the rate of the current.

16) A barge takes 4 hours to move (at a constant rate) downstream for 32 miles, helped by a current of 2 miles per hour. If the barge's engines are set at the same pace, find the time of its return trip against the current.

17) A barge takes 5 hours to move (at a constant rate) downstream for 55 miles, helped by a current of 3 miles per hour. If the barge's engines are set at the same pace, find the time of its return trip against the current.

18) Khang and Hector live 70 miles apart in southeastern Missouri. They decide to bicycle towards each other and meet somewhere in between. Hector's rate of speed is 40% of Khang's. They start out at the same time and meet 5 hours later. Find Hector's rate of speed.

19) Khang and Hector live 37.8 miles apart in southeastern Missouri. They decide to bicycle towards each other and meet somewhere in between. Hector's rate of speed is 80% of Khang's. They start out at the same time and meet 3 hours later. Find Hector's rate of speed.

20) Doreen and Irena plan to leave their houses at the same time, roller blade towards each other, and meet for lunch after 4 hours on the road. Doreen can maintain a speed of 9.6 miles per hour, which is 80% of Irena's speed. If they meet exactly as planned, what is the distance between their houses?

21) Doreen and Irena plan to leave their houses at the same time, roller blade towards each other, and meet for lunch after 2 hours on the road. Doreen can maintain a speed of 5.4 miles per hour, which is 90% of Irena's speed. If they meet exactly as planned, what is the distance between their houses?

22) Jimmy is a partner in an Internet–based coffee supplier.The company offers gourmet coffee beans for $14 per pound and regular coffee beans for $6 per pound. Jimmy is creating a medium–price product that will sell for $8 per pound.The first thing to go into the mixing bin was 18 pounds of the gourmet beans. How many pounds of the less expensive regular beans should be added?

23) Jimmy is a partner in an Internet–based coffee supplier.The company offers gourmet coffee beans for $14 per pound and regular coffee beans for $6 per pound. Jimmy is creating a medium–price product that will sell for $8 per pound.The first thing to go into the mixing bin was 12 pounds of the gourmet beans. How many pounds of the less expensive regular beans should be added?

24) Jimmy is a partner in an Internet–based coffee supplier.The company offers gourmet coffee beans for $15 per pound and regular coffee beans for $6 per pound. Jimmy is creating a medium–price product that will sell for $8 per pound.The first thing to go into the mixing bin was 12 pounds of the gourmet beans. How many pounds of the less expensive regular beans should be added?

25) The three angles in a triangle always add up to 180°. If one angle in a triangle is 52° and the second is 3 times the third, what are the three angles?

26) The three angles in a triangle always add up to 180°. If one angle in a triangle is 39° and the second is 2 times the third, what are the three angles?

27) The three angles in a triangle always add up to 180°. If one angle in a triangle is 90° and the second is 4 times the third, what are the three angles?

28) Jarod is having a problem with rabbits getting into his vegetable garden, so he decides to fence it in. The length of the garden is 3 feet more than 5 times the width. He needs 102 feet of fencing to do the job. Find the length and width of the garden.

29) Jarod is having a problem with rabbits getting into his vegetable garden, so he decides to fence it in. The length of the garden is 12 feet more than 2 times the width. He needs 60 feet of fencing to do the job. Find the length and width of the garden.

30) Jarod is having a problem with rabbits getting into his vegetable garden, so he decides to fence it in. The length of the garden is 6 feet more than 3 times the width. He needs 84 feet of fencing to do the job. Find the length and width of the garden.

1) $\frac{8}{3}$ and $\frac{4}{3}$

2) $-\frac{32}{9}$ and $-\frac{40}{9}$

3) 1 and – 7
4) 1 and – 9
5) 5 and – 1
6) 5 and 1
7) 6 and 2
8) adult's ticket: $23; child's ticket: $16
9) adult's ticket: $19; child's ticket: $15
10) 11 nickels and 44 dimes
11) 8 nickels and 24 dimes
12) 70 bracelets and 50 necklaces
13) 40 bracelets and 80 necklaces
14) 3 mph
15) 2 mph
16) 8 hours
17) 11 hours
18) 4 mph
19) 5.6 mph
20) 86.4 miles
21) 22.8 miles
22) 54 pounds
23) 36 pounds
24) 42 pounds
25) 52°, 96°, 32°
26) 39°, 94°, 47°
27) 90°, 72°, 18°
28) length: 43 feet; width: 8 feet
29) length: 24 feet; width: 6 feet
30) length: 33 feet; width: 9 feet