Math 084 W2010 Worksheet 5.4 v01
Systems of Linear Equations Exercises
Dressler

Name_____

Solve the problem.

1) The sum of two numbers is –6. Three times the first number equals 4 times the second number. Find the two numbers.

2) The sum of two numbers is –5. Two times the first number equals 4 times the second number. Find the two numbers.

3) Two numbers total 6, and their difference is 14. Find the two numbers.

4) Two numbers total 10, and their difference is 12. Find the two numbers.

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

6) One number is four more than a second number. Two times the first number is 10 more than four times the second number.

7) One number is four more than a second number. Two times the first number is 2 more than four times the second number.

8) Devon purchased tickets to an air show for 9 adults and 2 children. The total cost was $190. 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.

9) Devon purchased tickets to an air show for 9 adults and 2 children. The total cost was $208. The cost of a child's ticket was $6 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 7 times as many dimes as nickels, and the value of the dimes is $5.85 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 5 times as many dimes as nickels, and the value of the dimes is $5.40 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 $7 each and a number of necklaces at $9 each. She wrote a check for $940 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 $11 each. She wrote a check for $920 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) 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.

15) Julie and Eric row their boat (at a constant speed) 27 miles downstream for 3 hours, helped by the current. Rowing at the same rate, the trip back against the current takes 9 hours. Find the rate of the current.

16) 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.

17) A barge takes 3 hours to move (at a constant rate) downstream for 21 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.

18) Khang and Hector live 77 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 57 miles apart in southeastern Missouri. They decide to bicycle towards each other and meet somewhere in between. Hector's rate of speed is 90% 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 7.2 miles per hour, which is 90% 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 6.3 miles per hour, which is 70% 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 $13 per pound and regular coffee beans for $5 per pound. Jimmy is creating a medium–price product that will sell for $7 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?

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 $4 per pound. Jimmy is creating a medium–price product that will sell for $6 per pound.The first thing to go into the mixing bin was 20 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 $13 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?

25) The three angles in a triangle always add up to 180°. If one angle in a triangle is 126° and the second is 5 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 110° and the second is 4 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 42° and the second is 2 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 2 feet more than 5 times the width. He needs 100 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 5 feet more than 2 times the width. He needs 46 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 11 feet more than 6 times the width. He needs 148 feet of fencing to do the job. Find the length and width of the garden.

1) $-\dfrac{24}{7}$ and $-\dfrac{18}{7}$

2) $-\dfrac{10}{3}$ and $-\dfrac{5}{3}$

3) 10 and – 4

4) 11 and – 1

5) – 3 and – 7

6) 3 and – 1

7) 7 and 3

8) adult's ticket: $18; child's ticket: $14

9) adult's ticket: $20; child's ticket: $14

10) 9 nickels and 63 dimes

11) 12 nickels and 60 dimes

12) 70 bracelets and 50 necklaces

13) 80 bracelets and 40 necklaces

14) 2 mph

15) 3 mph

16) 11 hours

17) 7 hours

18) 4.4 mph

19) 9 mph

20) 60.8 miles

21) 30.6 miles

22) 36 pounds

23) 80 pounds

24) 45 pounds

25) 126°, 45°, 9°

26) 110°, 56°, 14°

27) 42°, 92°, 46°

28) length: 42 feet; width: 8 feet

29) length: 17 feet; width: 6 feet

30) length: 65 feet; width: 9 feet