

Algebra P3

HW # 19

Systems of Equations, Day 4

1. Mariana has worked out a lot this week. She both runs (r) and bikes (b). This week she exercised for a total of 10 hours.

When she runs, she travels at 6 miles per hour, but when she bikes she goes at 14 miles per hour. She notices at the end of the week that her iPod has recorded that she has gone a total of 88 miles.

a. There are two equations that you can write from the information above. Write them both and then define your variables.

b. Now solve the system of equations above by substitution.
(First solve one of the equations for either variable--then substitute into the other equation)

c. What does the solution tell you (in words)?

2. Jim has two candles. The first is 300 mm long, and burns at a rate of 6 mm per hour.

The second candle is 240 mm long, and burns at a rate of 4 mm per hour

a. There are two equations that you can write from the information above. Write them both and then define your variables.

b. Are the candles ever the same length? Use substitution to figure this out.

c. When are the candles the same length? How long are the candles when this happens?
