Name: ______________________

Applications of Linear Equations

In this worksheet, you will solve several problems by setting them up as equations.

Answer each of questions on this worksheet by setting it up as an equation and then solving that equation.

1. The average of 16 and \(x\) is 25. What is the value of \(x\)?

2. The average of two numbers is -30. One of the numbers is 25. What is the other number?

3. In David’s math class, the midterm is worth 40% of the grade, and the final exam is worth 60% of the grade. If David earned a 90% on the midterm exam, what does he need on the final exam so that his overall average will be 75%?
4 Steve’s cell phone plans costs him $49.99 per month, plus 5 cents for each text massage. If his bill for January was $54.84, how many text messages did he use?

5 You catch a taxi from the airport to a friend’s house. The cost of the taxi ride is $2.50 plus $4.00 per mile. If the total fare you pay is $16.90, how many miles were you charged for?

6 The following formula tells us how to convert a temperature reading between degrees Fahrenheit (F) and degrees Celsius (C):

\[ F = (1.8)C + 32 \]

A cousin visiting from Freedonia (where they use Celsius instead of Fahrenheit) asks you what the current temperature is outside. You know that the temperature is 77 degrees Fahrenheit. What is the temperature in degrees Celsius?