

Equations With Fractions

Answer the following on your POD paper. Give non-whole number answers as reduced fractions.

1. Solve the following algebra equations and show each step.

a. $12x - 3 = 7$

b. $-6x + 8 = 11$

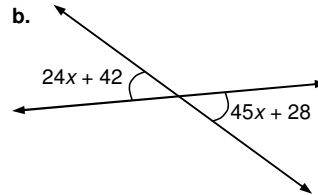
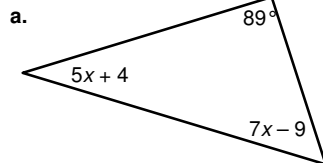
c. $11x + 21 = 3x + 27$

d. $16x + 4 = x - 6$

e. $3x + 9x + 17 = 4x - 5 + 42$

f. $2x + x - 6 - 15 = 2x - 11x + 7$

2. For each of the following diagrams, write and solve an equation to find the value of x .



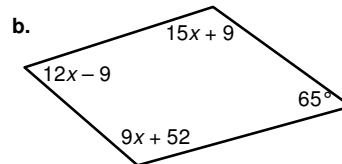
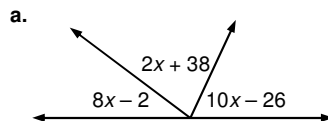
3. You have just returned from a 3-day trip. On the first day of your trip, you took 10 photographs. On the third day of the trip, you took twice as many photographs as you did on the second day. You took a total of 46 photographs.

- a. Let x = the number of photographs taken on the second day.

Write an equation for the total number of photographs taken.

- b. Solve the equation and give the number of photographs taken on each day.

4. For each of the following diagrams, write and solve an equation to find the value of x .



5. A rectangle has a length that is 3 more than triple the width. The perimeter of the rectangle is 78 cm.

- a. Let x = the width. Draw a labeled diagram of the rectangle.

- b. Write an equation for the perimeter.

- c. Solve the equation and give the dimensions of the rectangle.

6. You are decorating for a party. Balloons cost \$8 for a dozen, but cost more if bought individually. With the money you have, you can buy 7 dozen and 5 single balloons, or you can buy 75 single balloons.

- a. Let x = the cost of a single balloon. Write an equation based on the information, then solve.

- b. How much is a single balloon?

- c. How much money do you have to spend?

7. Three people are comparing their ages. Sally is three times older than Greg. Johnny is 19 years older than Sally. The sum of their three ages is 82.

- a. Let x = Greg's age. Write an equation for the sum of their ages.

- b. Solve the equation and give the age of each person.