

**8-4 Skills Practice: Solving Equations with Variables on Each Side** **Math8**

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1. Solve each equation. Check your solution. (*show your work!*)

a.  $9m + 14 = 2m$

b.  $13x = 32 + 5x$

c.  $8d - 25 = 3d$

d.  $t - 27 = 4t$

e.  $7p - 5 = 6p + 8$

f.  $11z - 5 = 9z + 7$

g.  $12 - 5h = h + 6$

h.  $4 - 7f = f - 12$

i.  $-6y + 17 = 3y - 10$

j.  $3x - 32 = -7x + 28$

k.  $3.2a - 16 = 4a$

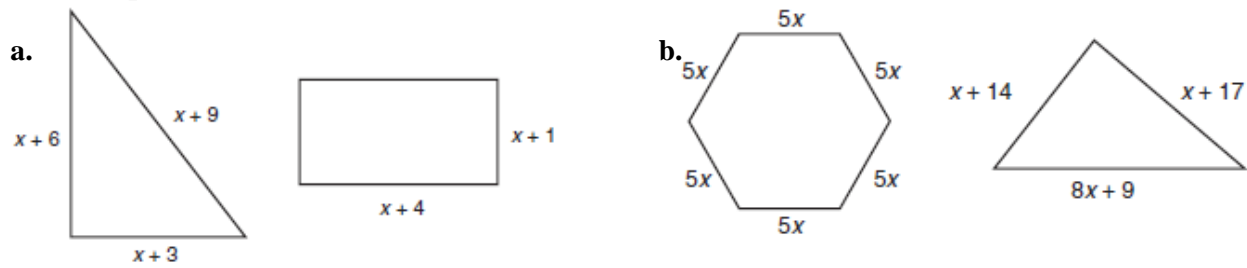
l.  $16.8 - v = 6v$

2. Find each number. (*show your work!*)

- a. Fourteen less than five times a number is three times the number.  
Define a variable, write an equation, and solve to find the number.

- b. Twelve more than seven times a number equals the number less six.  
Define a variable, write an equation, and solve to find the number.

3. Write an equation to find the value of  $x$  so that each pair of polygons has the same perimeter. Then solve. (*show your work!*)



**Write and solve an equation to solve each of the following problems: (*show your work!*)**

4. For an annual membership fee of \$500, Mr. Bailey can join a country club that would allow him to play a round of golf for \$35. Without the membership, the country club charges \$55 for each round of golf. Write and solve an equation to determine how many rounds of golf Mr. Bailey would have to play for the cost to be the same with and without a membership.
5. Marc has 45 CDs in his collection, and Andrea has 61. If Marc buys 4 new CDs each month and Andrea buys 2 new CDs each month, after how many months will Marc and Andrea have the same number of CDs?
6. Mike's Fitness Center charges \$30 per month for a membership. All-Day Fitness Club charges \$22 per month plus an \$80 initiation fee for a membership. After how many months will the total amount paid to the two fitness clubs be the same?
7. Julia and Lise are playing games at the arcade. Julia started with \$15, and the machine she is playing costs \$0.75 per game. Lise started with \$13, and her machine costs \$0.50 per game. After how many games will the two girls have the same amount of money remaining?
8. Jeff is a part-time student at Horizon Community College. He currently has 22 credits, and he plans to take 6 credits per semester until he is finished. Jeff's friend Kila is also a student at the college. She has 4 credits and plans to take 12 credits per semester. After how many semesters will Jeff and Kila have the same number of credits?