

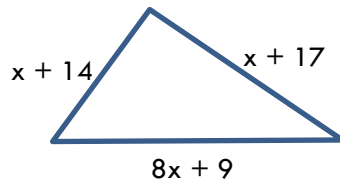
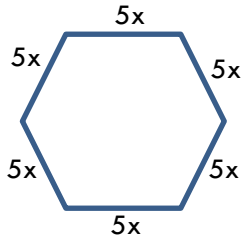
Name: _____ Date: _____ Period: _____

Variables on Both Sides - Problem Solving

1) Fourteen less than five times a number is the same as three times the number. Write and solve an equation to find the number.

2) Twelve more than seven times a number equals the number diminished by six. Write and solve an equation to find the number.

3) Write and solve an equation to find the value of x so that the pair of polygons below have the same perimeter.



4) Mike and Lucas work for the same hourly rate. Mike worked eighteen hours and had \$42 deducted from his pay for taxes. Lucas worked fifteen hours and had \$18 deducted from his check. How much money do Mike and Lucas make per hour if their paychecks were the same?

Define a variable:

Equation:

5) Ms. Byers wants to order a fancy new chair for her desk. Amazon charges \$14 plus \$2 per pound to ship her package overnight. Office Depot charges \$20 plus \$1.50 each pound to ship overnight.

A: How much does the chair weigh if the cost is the same at both companies?

Define a variable:

Equation:

B: How much will it cost to overnight the chair?

6) LA Fitness charges \$30 per month for a membership. Planet Fitness 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?

Define a variable:

Equation:

8) Will and Nancy recently opened bank accounts. Will put \$1,000 in his account but spends \$25 each month on bills. Nancy put \$10 in her account and plans to deposit \$35 each month.

A: How many months will it take for Will and Nancy to have an equal amount of money in their bank accounts?

Define a variable:

Equation:

B: How much money will be in each account?

7) Max is a part-time student at Georgia Perimeter College. He currently has 22 credits, and he plans to take 6 credits per semester until he is finished. Max's friend Elle is a full-time student at the college. She has 4 credits and plans to take 12 credits per semester. After how many semesters will Max and Elle have the same number of credits?

Define a variable:

Equation:

9) Dustin and Steve both collect stamps. Dustin has 56 stamps, and Steve has 80 stamps. Both have recently joined different stamp-collecting clubs. Dustin's club will send him 12 new stamps per month, and Steve's club will send him 8 new stamps per month.

A: After how many months will Dustin and Steve have the same number of stamps?

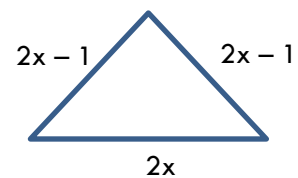
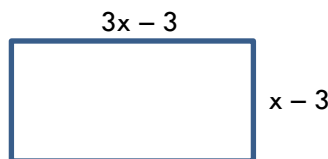
Define a variable:

Equation:

B: How many stamps will that be?

10) Rabbits keep eating the carrots that Claire is growing in her garden. She needs to purchase a fence to keep the rabbits out. She can build either a triangular or rectangular fence (shown below) since both have the same perimeter.

A) Solve for x



B) How many feet of fencing does she need to buy?

C) If fencing cost \$5.10 per foot, how much will it cost Claire?