

# Additional Practice

Solve each equation. Check your answers.

1.  $3d + 8 = 2d - 17$

-25

2.  $2n - 7 = 5n - 10$

1

3.  $p - 15 = 13 - 6p$

4

4.  $-t + 5 = t - 19$

12

5.  $15x - 10 = -9x + 2$

1/2

6.  $1.8r + 9 = -5.7r - 6$

-2

7.  $2y + 3 = 3(y + 7)$

-18

8.  $4n + 6 - 2n = 2(n + 3)$

IS, R

9.  $6m - 8 = 2 + 9m - 1$

-3

10.  $-v + 5 + 6v = 1 + 5v + 3$

NS

11.  $2(3b - 4) = 8b - 11$

3/2

12.  $5(r - 1) = 2(r - 4) - 6$

-3

Answer each of the following.

13. Janine has job offers at two companies. One company offers a starting salary of \$28,000 with a raise of \$3000 each year. The other company offers a starting salary of \$36,000 with a raise of \$2000 each year.

a. After how many years would Janine's salary be the same with both companies?

8  
52,000

b. What would that salary be?

14. Xian and his cousin both collect stamps. Xian has 56 stamps, and his cousin has 80 stamps. Both have recently joined different stamp-collecting clubs. Xian's club will send him 12 new stamps per month, and his cousin's club will send him 8 new stamps per month.

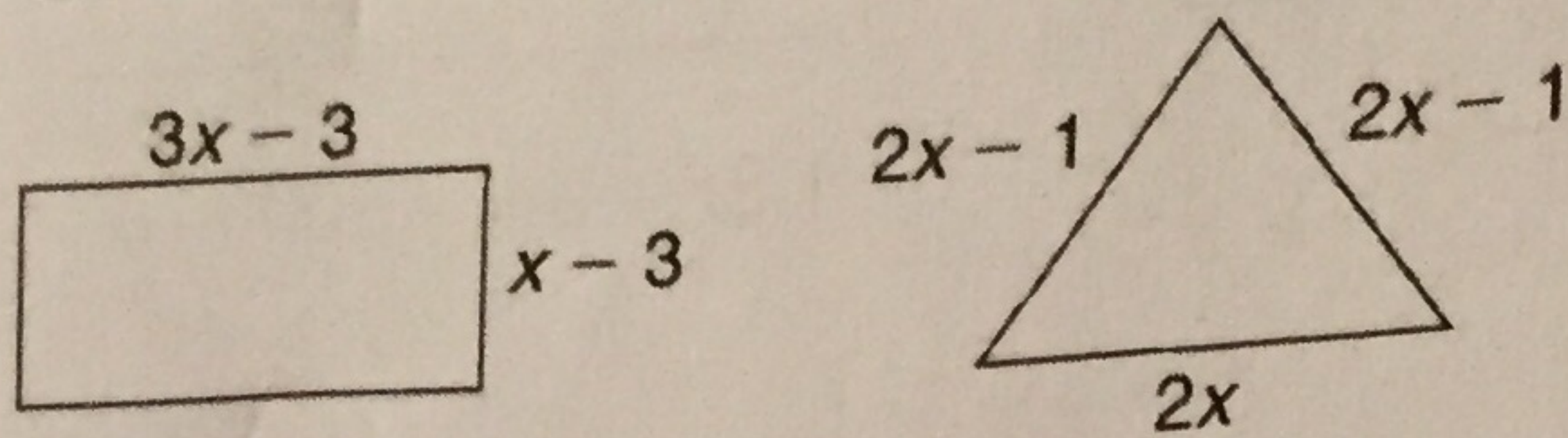
a. After how many months will Xian and his cousin have the same number of stamps?

6  
128

b. How many stamps will that be?

Write the correct answer.

1. Claire purchased just enough fencing to border either a rectangular or triangular garden, as shown, whose perimeters are the same.



How many feet of fencing did she buy?

28

2. Celia and Ryan are starting a nutrition program. Celia currently consumes 1200 calories a day and will increase that number by 100 calories each day. Ryan currently consumes 3230 calories a day and will decrease that number by 190 each day. They will continue this pattern until they are both consuming the same number of calories per day. In how many days will that be?

7

3. A moving company charges \$800 plus \$16 per hour. Another moving company charges \$720 plus \$21 per hour. How long is a job that costs the same no matter which company is used?

16

4. Aaron needs to take out a loan to purchase a motorcycle. At one bank, he would pay \$2500 initially and \$150 each month for the loan. At another bank, he would pay \$3000 initially and \$125 each month. After how many months will the two loan payments be the same?

20

Use the table below to answer questions 5–7. Select the best answer. The table shows the membership fees of three different gyms.

5. After how many months will the fees for Workout Now and Community Gym be the same?
- A 2.5                      C 25  
 B 15                      D 30
6. Sal joined Workout Now for the number of months found in problem 5. How much did he pay?
- F \$695                      H \$1325  
 G \$875                      J \$1550
7. After how many months will the fees for Workout Now and Ultra Sports Club be the same?
- A 7                              C  12  
 B 10                             D 15

Gym	Fees
Workout Now	\$200 plus \$45 per month
Community Gym	\$50 plus \$55 per month
Ultra Sports Club	\$20 plus \$60 per month

Name \_\_\_\_\_

Class \_\_\_\_\_

Date \_\_\_\_\_

# Additional Practice

Answer each of the following.

1. The formula  $C = 2\pi r$  relates the radius  $r$  of a circle to its circumference  $C$ . Solve the formula for  $r$ .

$$\underline{C/2\pi}$$

2. The formula  $y = mx + b$  is called the slope-intercept form of a line. Solve this formula for  $m$ .

$$\underline{\frac{y-b}{x} \text{ or } \frac{y}{x} - \frac{b}{x}}$$

Solve for the indicated variable.

3.  $4c = d$  for  $c$

$$\underline{d/4}$$

4.  $n - 6m = 8$  for  $n$

$$\underline{8 + 6m}$$

5.  $2p + 5r = q$  for  $p$

$$\underline{\frac{q-5r}{2} \text{ or } \frac{q}{2} - \frac{5r}{2}}$$

6.  $-10 = xy + z$  for  $x$

$$\underline{\frac{-10-z}{y} \text{ or } \frac{-10}{y} - \frac{z}{y}}$$

7.  $\frac{a}{b} = c$  for  $b$

$$\underline{a/c}$$

8.  $\frac{h-4}{j} = k$  for  $j$

$$\underline{\frac{h-4}{k} \text{ or } \frac{h}{k} - \frac{4}{k}}$$

Answer each of the following.

9. The formula  $c = 5p + 215$  relates  $c$ , the total cost in dollars of hosting a birthday party at a skating rink, to  $p$ , the number of people attending.

a. Solve the formula  $c = 5p + 215$  for  $p$ .

$$\underline{\frac{c-215}{5} \text{ or } \frac{c}{5} - 43}$$

- b. If Allie's parents are willing to spend \$300 for a party, how many people can attend?

$$\underline{17}$$

10. The formula for the area of a triangle is  $A = \frac{1}{2}bh$ ,

where  $b$  represents the length of the base and  $h$  represents the height.

a. Solve the formula  $A = \frac{1}{2}bh$  for  $b$ .

$$\underline{2A/h}$$

- b. If a triangle has an area of  $192 \text{ mm}^2$ , and the height measures  $12 \text{ mm}$ , what is the measure of the base?

$$\underline{32}$$