

Drill 3

Answers can be found in Part IV.

2

If $\frac{7}{x+4} = \frac{x+3}{y}$, then which of the following represents an equivalent equation for y , in terms of x ?

A) $y = \frac{7(x+3)}{x+4}$

B) $y = \frac{x^2 + 7x + 12}{7}$

C) $y = \frac{x+3}{7(x+4)}$

D) $y = \frac{7}{x^2 + 7x + 12}$

4

If $\frac{3a}{4b} = \frac{5c}{6d}$, then which of the following is equal to bc ?

A) $\frac{a}{2d}$

B) $\frac{5a}{8d}$

C) $\frac{9ad}{10}$

D) $18ad$

7

$$\frac{2(p-2) + 2(3-p)}{p-2} = \frac{2(3p-6) + 3(6-2p)}{p-2}$$

Which of the following is a true statement about the equation above?

A) There are no solutions to the equation.

B) The solution is $p = 2$.

C) The solution is $p = 3$.

D) There are infinitely many solutions to the equation.

8

A ski resort is renting skis for \$30 and snowboards for \$20 over a weekend. On Friday, 40 skis and snowboards were rented, and the resort collected \$1,100 in rental fees. On Saturday, 55 skis and snowboards were rented and the resort collected \$1,400 in rental fees. On Sunday, the resort rented 85 skis and snowboards and collected \$2,100 rental fees. Solving which of the following system of equations yields the number of skis, s , and the number of snowboards, b , that were rented over the three-day weekend?

- A) $s + b = 50$
 $30s + 20b = 180$
- B) $s + b = 180$
 $30s + 20b = 460$
- C) $s + b = 180$
 $30s + 20b = 4,600$
- D) $s + b = 4,600$
 $30s + 20b = 180$

9

$$-4(h + 5) = -3(2 - h) + 14$$

In the equation above, what is the value of h ?

- A) -18
- B) -4
- C) $\frac{18}{7}$
- D) 18

13

$$10(3x + a) - a(4x + 2) = 2a(x + 4)$$

If the equation above has infinitely many solutions for x , what is the value of a ?

- A) 5
- B) 4
- C) 3
- D) 1

**3**

If a certain number is 3 more than 7 times itself, what is the number?

- A) -3
- B) $-\frac{3}{2}$
- C) $-\frac{1}{2}$
- D) $-\frac{3}{8}$

**5**

Ann is writing a book that will include up to 98 recipes. She currently has 32 main dish recipes and 18 dessert recipes. If r represents the number of additional recipes that Ann could include in her book, which of the following inequalities represents all possible values of r ?

- A) $r - 50 \geq 98$
- B) $r - 50 \leq 98$
- C) $98 - (32 + 18) - r \leq 0$
- D) $98 - (32 + 18) - r \geq 0$

**12**

$$\frac{m + 9}{3} + 2 = \frac{m - 2}{7} + 3$$

In the equation above, what is the value of m ?

- A) -17
- B) -12
- C) 5
- D) 10



23

A group of students sells different types of cookies at a bake sale to raise funds for a school trip. When the students sell two snickerdoodle cookies, s , and seven cinnamon cookies, c , they raise \$14.00. When the students sell eight snickerdoodle cookies and three cinnamon cookies, they raise \$17.50. Assuming the price per cookie does not change, which of the following equations represents a sale the students could make during the fundraiser?

- A) $2s + 3c = \$8.00$
- B) $4s + 6c = \$16.25$
- C) $6s + 5c = \$17.36$
- D) $8s + 7c = \$24.50$



25

Laura has a recipe for cake that calls for both eggs and cups of flour. Laura can purchase five eggs and four cups of flour for \$5.50 and nine eggs and eight cups of flour for \$10.50. Based on these costs, what is the cost of the ten eggs that Laura will need for her recipe?

- A) \$5.00
- B) \$5.50
- C) \$7.50
- D) \$10.50



28

A fitness tracking watch collects data on how many miles a user walks per day. The data is collected from 12:00 A.M. each morning until 12:00 A.M. the following day, and resets each day at midnight. After one month of use, Debbie reviews her data in the fitness tracker. She discovers that her average daily miles walked are equal to one-hundredth of the square of the number of hours in one day. How many miles does Debbie walk in one day, on average, rounded to the nearest mile?

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0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9