Applications Task Cards

Print double-sided, flipping on the long edge. Cut along the frames.

1

Let x represent the larger of two numbers, and y the smaller. Write an expression for:

a) the sum of the two numbers
b) the smaller subtracted from the larger
c) the sum of six times the larger and two times the smaller

2

A plane flies at x km/h in still air. The wind speed is y km/h. Write an expression for the speed of the plane when it is flying:

a) into the wind
b) with the wind

A fitness centre charges an initiation fee of $\$x$ plus a monthly charge of $\$y$. Write an expression for the cost of being a member for:

c) 7 months **d)** 15 months

3

Tickets to a college swim meet cost \$10 for general admission and \$5 for students. There were x general admission tickets and y student tickets sold. Write an expression for:

a) the total number of tickets sold
b) the revenue, in dollars, from general admission tickets
c) the revenue, in dollars, from student tickets
d) the total revenue from all the tickets

4

Traci invested $\$x$ at 7% and $\$y$ at 6%.

a) Write 7% and 6% as decimals.

Write an expression for:

b) the total amount Traci invested
c) the interest earned at 7% in one year
d) the interest earned at 6% in one year
e) the total interest earned in one year

5

Let x represent the larger of two numbers, and y the smaller.

The sum of the two numbers is 20.
The smaller subtracted from the larger is 4.

Write two equations. Then find the two numbers.

6

A plane flies at x km/h in still air. The wind speed is y km/h.

Flying into the wind, the plane travels at 450 km/h. Flying with the wind, it travels at 550 km/h.

Write two equations. Then find the speed of the plane in still air and the speed of the wind.

Applications Task Cards — Backs

Answers for the cards on the other side of this sheet.

2 — answer

a) $x - y$ b) $x + y$

c) $x + 7y$ d) $x + 15y$

1 — answer

a) $x + y$

b) $x - y$

c) $6x + 2y$

4 — answer

a) 0.07 and 0.06 b) $x + y$

c) $0.07x$ d) $0.06y$

e) $0.07x + 0.06y$

3 — answer

a) $x + y$ b) $10x$

c) $5y$ d) $10x + 5y$

6 — answer

$$x - y = 450$$
$$x + y = 550$$

Plane: 500 km/h

Wind: 50 km/h

5 — answer

$$x + y = 20$$
$$x - y = 4$$

The numbers are 12 and 8.

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7

A fitness centre charges an initiation fee of $\$x$ plus a monthly charge of $\$y$.

Being a member for 7 months costs \$255. Being a member for 15 months costs \$455.

Write two equations. Then find the initiation fee and the monthly charge.

8

Tickets to a college swim meet cost \$10 for general admission and \$5 for students. There were x general admission tickets and y student tickets sold.

In total, 350 tickets were sold, and the total revenue was \$2750.

Write two equations. Then find how many tickets of each kind were sold.

9

At a banquet hall, two dishes will be served at a wedding: a chicken dish that costs \$16 and a beef dish that costs \$18. Each of the 300 guests attending is served one dish, and the total cost of preparing the food is \$5256. How many chicken dishes and how many beef dishes need to be prepared?

Do not solve yet. What are you asked to find? Write two "let" statements, then two equations.

10

At a wedding, each of 300 guests is served one dish: chicken, which costs \$16, or beef, which costs \$18. The food costs \$5256 in total. With x chicken dishes and y beef dishes:

$$x + y = 300$$
$$16x + 18y = 5256$$

Solve the system and check your solution. How many dishes of each kind need to be prepared?

11

Traci invested \$5000 in total. She invested part of it at 7% and the rest at 6%. After one year, she had earned \$320 in interest altogether.

How much did Traci invest at each rate?

Write "let" statements and two equations, then solve.

Bonus

Swim meet tickets cost \$10 for general admission and \$5 for students. In total, 400 tickets were sold for \$3100.

With x general admission tickets and y student tickets sold, a group wrote:

$$10x + 5y = 400$$
$$x + y = 3100$$

What went wrong? Fix it and solve.

Applications Task Cards — Backs

Answers for the cards on the other side of this sheet.

8 — answer

$$x + y = 350$$
$$10x + 5y = 2750$$

200 general admission tickets
150 student tickets

7 — answer

$$x + 7y = 255$$
$$x + 15y = 455$$

Initiation fee: \$80
Monthly charge: \$25

10 — answer

(72, 228)

72 chicken dishes and 228 beef dishes need to be prepared.

9 — answer

Let x be the number of chicken dishes.
Let y be the number of beef dishes.

$$x + y = 300$$
$$16x + 18y = 5256$$

Bonus — answer

$$x + y = 400$$
$$10x + 5y = 3100$$

220 general admission tickets
180 student tickets

11 — answer

$$x + y = 5000$$
$$0.07x + 0.06y = 320$$

\$2000 at 7%
\$3000 at 6%