

Challenge

Picture It

A friend needs your help to solve a story problem.

Nela has some new kittens. Right now there are 9 kittens in the basket. 3 are gray and 6 are white. Then 3 more gray kittens walk into the basket. How many kittens does Nela have in all?

1. Read the problem.
2. Underline what your friend needs to find out.
3. A picture might help. Make a math drawing to help you solve the problem.
4. Is this a *change minus* or *change plus* situation?

5. Would you tell your friend to add or subtract to solve the problem? Why?

6. Does the color of the kittens matter to the solution? Why?

Challenge

Picture It

A friend needs your help to solve a story problem.

Nela has some new kittens. Right now there are 9 kittens in the basket. 3 are gray and 6 are white. Then 3 more gray kittens walk into the basket. How many kittens does Nela have in all?

1. Read the problem.
2. Underline what your friend needs to find out.
3. A picture might help. Make a math drawing to help you solve the problem.

$$\begin{array}{c}
 9 + \bigcirc \bigcirc \bigcirc \quad \boxed{12} \\
 \text{K} \quad \text{more} \quad \text{now}
 \end{array}$$

4. Is this a *change minus* or *change plus* situation?

Change plus

5. Would you tell your friend to add or subtract to solve the problem? Why?

Add. Nela needs to find how many in all.

6. Does the color of the kittens matter to the solution? Why?

No. The question just asks for the total number of kittens.

Challenge

Solution, Please

There are 14 eggs in the basket. Elsa drops 6 eggs and breaks them. How many eggs are not broken?

1. Ring the equation that would **not** solve the problem.
Explain why.

$$14 - 6 = \square \quad 6 + 14 = \square \quad 6 + \square = 14$$

2. Is the story problem a *change plus* or a *change minus* situation?

3. Choose one of the equations to solve the problem.

4. Draw a math mountain to help you solve the story problem.

5. How many eggs are not broken? _____

Challenge

Solution, Please

There are 14 eggs in the basket. Elsa drops 6 eggs and breaks them. How many eggs are not broken?

1. Ring the equation that would **not** solve the problem. Explain why.

$$14 - 6 = \square \quad \boxed{6 + 14 = \square} \quad 6 + \square = 14$$

The total of $6 + 14$ will be greater than 14. There are only 14 eggs in the basket. Some broke. So, the number of eggs that are not broken has to be less than 14.

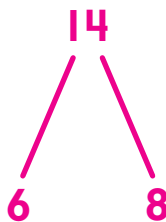
2. Is the story problem a *change plus* or a *change minus* situation?

Change minus

3. Choose one of the equations to solve the problem.

Possible response: $6 + \square = 14$

4. Draw a math mountain to help you solve the story problem.



5. How many eggs are not broken? **8 eggs**

Challenge

Collections

Solve to find the unknown partner. Write the equation.

1. Tasha has 14 books. She put 6 books on a shelf. She put 2 books in her book bag and the rest on her desk. How many books did she put on the desk?
-

2. Leo has 8 snow globes. He got 3 of them from Keisha, 1 from Joe, and the rest from his dad. How many snow globes did Leo get from his dad?
-

3. Grace had 15 baseballs at the start of the season. She lost 2 during the first game and 3 during the second game. How many baseballs did she have after the two games?
-

4. There were 8 carrots and 5 potatoes in the stew. Bill added some more carrots so there were 14 carrots in the stew. How many carrots did Bill add?
-

5. **Create Your Own** Use the numbers 5, 8, and 13. Write a collection problem on a separate sheet of paper. Then solve.

Challenge

Collections

Solve to find the unknown partner. Write the equation.

1. Tasha has 14 books. She put 6 books on a shelf. She put 2 books in her book bag and the rest on her desk. How many books did she put on the desk?

$$6 \text{ books; } 6 + 2 + \boxed{} = 14$$

2. Leo has 8 snow globes. He got 3 of them from Keisha, 1 from Joe, and the rest from his dad. How many snow globes did Leo get from his dad?

$$4 \text{ snow globes; } 3 + 1 + \boxed{} = 8$$

3. Grace had 15 baseballs at the start of the season. She lost 2 during the first game and 3 during the second game. How many baseballs did she have after the two games?

$$10 \text{ baseballs; } 15 - 2 - 3 = \boxed{}$$

4. There were 8 carrots and 5 potatoes in the stew. Bill added some more carrots so there were 14 carrots in the stew. How many carrots did Bill add?

$$6 \text{ carrots; } 8 + \boxed{} = 14$$

5. **Create Your Own** Use the numbers 5, 8, and 13. Write a collection problem on a separate sheet of paper. Then solve.

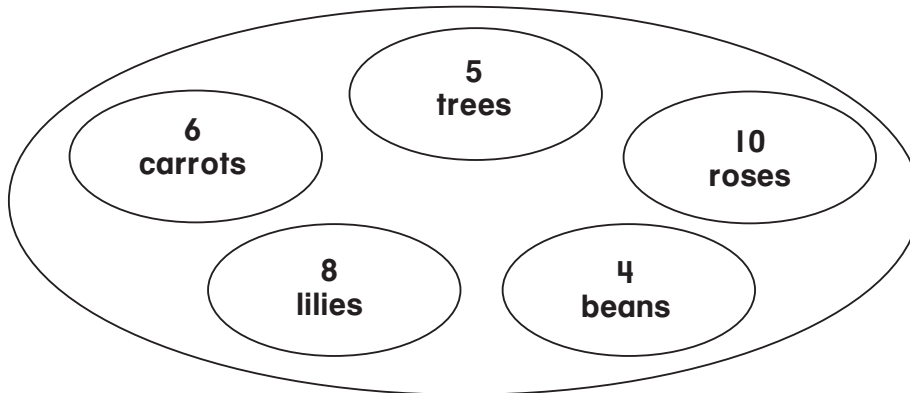
Problems will vary. Check children's work.

Challenge

In the Garden

Use the information in the Venn diagram to solve each problem. Write the equation.

Plants in the Garden



1. How many vegetable plants are in the garden?

2. How many flower plants are in the garden?

3. There are 2 apple trees and some peach trees. How many of the trees are peach trees?

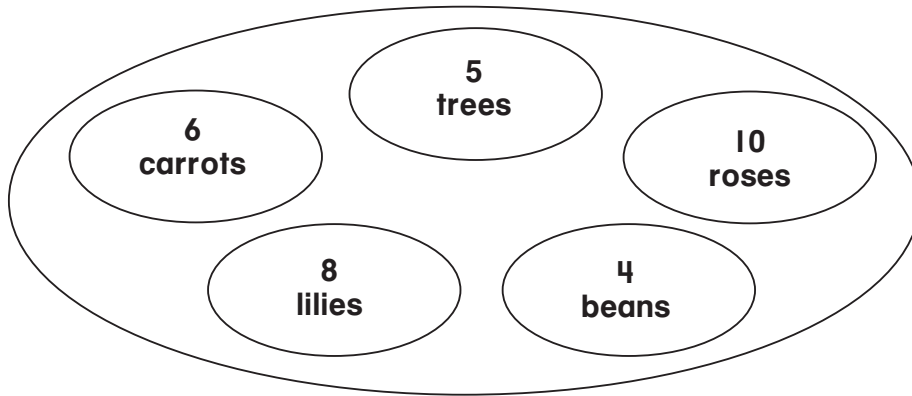
4. All of the roses except 4 are red. How many of the roses are red?

Challenge

In the Garden

Use the information in the Venn diagram to solve each problem. Write the equation.

Plants in the Garden



1. How many vegetable plants are in the garden?

10 vegetables; $6 + 4 = \square$

2. How many flower plants are in the garden?

18 flowers; $8 + 10 = \square$

3. There are 2 apple trees and some peach trees. How many of the trees are peach trees?

3 peach trees; $2 + \square = 5$

4. All of the roses except 4 are red. How many of the roses are red?

6 red roses; $4 + \square = 10$

Challenge

Compare with Drawings

You can compare two numbers to find which is greater than or less than the other.

Use a matching drawing to solve.

1. José has 12 red balloons and 8 blue balloons. How many more red balloons does he have?

_____ red balloons

Use comparison bars to solve.

2. Liza has 15 yellow balloons and 9 green balloons. Does she have more yellow or green balloons?

_____ balloons

Use a matching drawing to help you solve.

3. Brendan is 8 years old. Jay is older than Brendan. Lie is 2 years older than Jay. Payton is 12 and is the same age as Lie. How many years older is Jay than Brendan?

Challenge

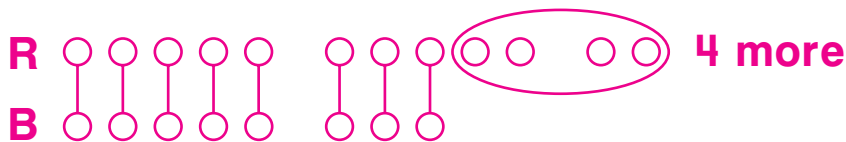
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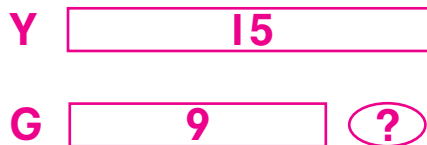
4 red balloons



Use comparison bars to solve.

2. Liza has 15 yellow balloons and 9 green balloons. Does she have more yellow or green balloons?

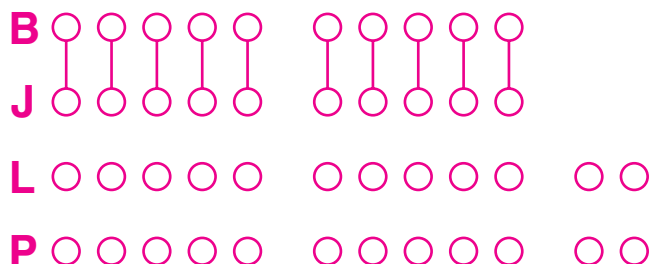
yellow balloons



Use a matching drawing to help you solve.

3. Brendan is 8 years old. Jay is older than Brendan. Lie is 2 years older than Jay. Payton is 12 and is the same age as Lie. How many years older is Jay than Brendan?

2 years



Challenge

Travel Time

Solve. Write the equation.

1. There are 25 children on the bus. At the first stop, some get off. Now there are 19 children. How many *fewer* children are there on the bus after the first stop?
-

2. There are 26 cars on the upper level of the ferry boat. There are 23 cars on the lower level. How many *fewer* cars are on the lower level?
-

3. There are 17 empty seats in the first train car. There are 8 empty seats in the second car. How many *more* empty seats are in the first train car than in the second train car?
-

4. A weekly subway pass costs \$15. Weekly bus fare is \$6. How much *more* does it cost to buy a subway pass than to pay the bus fare?
-

5. **Explain Your Thinking** Write about how you solved problem 2.
-
-
-

Challenge

Travel Time

Solve. Write the equation.

Equations may vary.

1. There are 25 children on the bus. At the first stop, some get off. Now there are 19 children. How many *fewer* children are there on the bus after the first stop?

6 fewer children; $25 - 19 = \square$

2. There are 26 cars on the upper level of the ferry boat. There are 23 cars on the lower level. How many *fewer* cars are on the lower level?

3 fewer cars; $23 + \square = 26$

3. There are 17 empty seats in the first train car. There are 8 empty seats in the second car. How many *more* empty seats are in the first train car than in the second train car?

9 more empty seats; $17 - 8 = \square$

4. A weekly subway pass costs \$15. Weekly bus fare is \$6. How much *more* does it cost to buy a subway pass than to pay the bus fare?

\$9 more; $15 - 6 = \square$

5. **Explain Your Thinking** Write about how you solved problem 2. **Answers will vary. Possible answer:**

Since there were 26 cars on the upper level and 23 cars on the lower level, I counted on from 23 until I got to 26.

There were 3 fewer cars on the lower level.

Challenge

Bouncy Ball Collections

The table shows the number of bouncy balls each child owns. Use the data to solve each problem.

| Number of Bouncy Balls | | | | |
|------------------------|-------|----------|-------|---------|
| Blake | Julia | Chandler | Jamal | Justine |
| 7 | 6 | 11 | 15 | 12 |

1. How many more bouncy balls does Jamal have than Julia?

2. How many bouncy balls do Justine and Blake have in all?

3. Chandler gave 3 bouncy balls to Blake. How many bouncy balls do Chandler and Blake each have now?

4. **Use a Math Drawing** Justine gave some of her bouncy balls to Julia so that they would each have the same number of bouncy balls. How many bouncy balls did Justine give to Julia? Make a math drawing to show your solution.

Challenge

Bouncy Ball Collections

The table shows the number of bouncy balls each child owns. Use the data to solve each problem.

| Number of Bouncy Balls | | | | |
|------------------------|-------|----------|-------|---------|
| Blake | Julia | Chandler | Jamal | Justine |
| 7 | 6 | 11 | 15 | 12 |

1. How many more bouncy balls does Jamal have than Julia?

9 more bouncy balls

2. How many bouncy balls do Justine and Blake have in all?

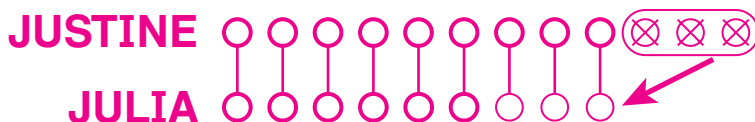
19 bouncy balls

3. Chandler gave 3 bouncy balls to Blake. How many bouncy balls do Chandler and Blake each have now?

Chandler: 8 bouncy balls; Blake: 10 bouncy balls

4. **Use a Math Drawing** Justine gave some of her bouncy balls to Julia so that they would each have the same number of bouncy balls. How many bouncy balls did Justine give to Julia? Make a math drawing to show your solution.

3 bouncy balls



Challenge

A Day at the Pet Store

Cross out extra information. Solve. If there is not enough information, write what you need to know to solve the problem.

1. Pete's Pet Store sold 8 parakeets, 7 finches, and 6 cockatoos. How many parakeets and finches were sold altogether?

2. Pete sold 4 black kittens, 5 striped kittens, and 1 gray kitten on Thursday. How many kittens were left at the end of the day?

3. A customer bought 3 bags of bird food. Each bag weighs 2 pounds and costs \$6. How much did the bird food cost?

4. Snakes cost \$6 each. On Monday Pete had 6 king snakes, 2 pythons, and 5 corn snakes. How much money did Pete make selling snakes on Monday?

Challenge

A Day at the Pet Store

Cross out extra information. Solve. If there is not enough information, write what you need to know to solve the problem.

1. Pete's Pet Store sold 8 parakeets, 7 finches, and ~~6 cockatoos~~. How many parakeets and finches were sold altogether?

15 parakeets and finches

2. Pete sold 4 black kittens, 5 striped kittens, and 1 gray kitten on Thursday. How many kittens were left at the end of the day?

Not enough information. Missing info: How many kittens

Pete had at the beginning of the day.

3. A customer bought 3 bags of bird food. Each bag weighs ~~2 pounds~~ and costs \$6. How much did the bird food cost?

\$18

4. Snakes cost \$6 each. On Monday Pete had 6 king snakes, 2 pythons, and 5 corn snakes. How much money did Pete make selling snakes on Monday?

Not enough information. Missing info:

How many snakes Pete sold on Monday.

Challenge

Wheels, Feet, and More

Sometimes a problem can have more than one answer.

Find as many answers as you can.

Solve. Watch out for hidden information.

1. There are 14 feet in the garden. How many rabbits and robins could there be?

2. Joel counts 22 wheels in the parking lot. How many cars and motorcycles could he see?

3. Ian's pets have 16 legs among them. How many birds, dogs, and cats could he have?

4. There are 20 animal tracks on the path. How many deer, crows, and mice could have walked on the path?

Challenge

Wheels, Feet, and More

Sometimes a problem can have more than one answer.
Find as many answers as you can.

Solve. Watch out for hidden information.

1. There are 14 feet in the garden. How many rabbits and robins could there be?

1 rabbit, 5 robins; 2 rabbits, 3 robins;

3 rabbits, 1 robin; 0 rabbits, 7 robins

2. Joel counts 22 wheels in the parking lot. How many cars and motorcycles could he see?

0 cars, 11 motorcycles; 1 car, 9 motorcycles;

2 cars, 7 motorcycles; 3 cars, 5 motorcycles;

4 cars, 3 motorcycles; 5 cars, 1 motorcycle

3. Ian's pets have 16 legs among them. How many birds, dogs, and cats could he have?

Answers will vary. Check children's answers.

4. There are 20 animal tracks on the path. How many deer, crows, and mice could have walked on the path?

Answers will vary. Check children's answers.

Challenge

What's Reasonable?

Randy and Fred collect stamps. Randy has more stamps than Fred. Fred has 30 cartoon character stamps and 8 action character stamps.

1. About how many stamps does Randy have?

32 stamps

50 stamps

15 stamps

2. You know what kind of stamps Fred has. Do you need to know what kind of stamps Randy has to answer the question above? Explain.

3. Is 15 a reasonable answer choice? Explain.

4. Is 32 a reasonable answer choice? Explain.

5. Which answer choice is reasonable? Why?

Challenge

What's Reasonable?

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1. About how many stamps does Randy have?

32 stamps

50 stamps

15 stamps

2. You know what kind of stamps Fred has. Do you need to know what kind of stamps Randy has to answer the question above? Explain.

No, I only need to know about how many stamps Randy has. I don't need to know what kind of stamps they are.

3. Is 15 a reasonable answer choice? Explain.

No, because Randy has more stamps than Fred. Fred has 38 stamps and the number 15 is less than 38.

4. Is 32 a reasonable answer choice? Explain.

No, because Randy has more stamps than Fred. Fred has 38 stamps and the number 32 is less than 38.

5. Which answer choice is reasonable? Why?

50. It is the only choice that is more than 38.

Challenge

Doubles Plus 1 Totals

At some bakeries, when you order 12 items, or 1 dozen, you will get 13 items. This is called a *baker's dozen*.



What is the doubles plus 1 addition equation for a baker's dozen?

The table shows how many muffins Mona's Muffin Shop sold on Friday. Complete the table by writing the doubles plus 1 equation for each type of muffin.

| Muffin Flavor | Number | Doubles Plus 1 Equation |
|----------------|--------|-------------------------|
| Banana | 7 | _____ |
| Cranberry | 19 | _____ |
| Pumpkin | 11 | _____ |
| Bran | 17 | _____ |
| Apple Cinnamon | 9 | _____ |
| Blueberry | 15 | _____ |

Challenge

Doubles Plus 1 Totals

At some bakeries, when you order 12 items, or 1 dozen, you will get 13 items. This is called a *baker's dozen*.



What is the doubles plus 1 addition equation for a baker's dozen?

$$\underline{6 + 7 = 13}$$

The table shows how many muffins Mona's Muffin Shop sold on Friday. Complete the table by writing the doubles plus 1 equation for each type of muffin.

| Muffin Flavor | Number | Doubles Plus 1 Equation |
|----------------|--------|---------------------------|
| Banana | 7 | $\underline{3 + 4 = 7}$ |
| Cranberry | 19 | $\underline{9 + 10 = 19}$ |
| Pumpkin | 11 | $\underline{5 + 6 = 11}$ |
| Bran | 17 | $\underline{8 + 9 = 17}$ |
| Apple Cinnamon | 9 | $\underline{4 + 5 = 9}$ |
| Blueberry | 15 | $\underline{7 + 8 = 15}$ |

Challenge

Brain Power

Solve. Show your work.

1. Robin invited 8 girls and 6 boys to her party. Her mom said she could invite 18 friends in all. How many more friends could Robin invite?

2. At the first stop, 5 people got on the subway car. At the second stop, 3 people got off. At the third stop, 7 people got on. How many people were on the subway car then?

3. Vince went to the arcade 3 times. Each time he went he won 5 tickets for prizes. He found 3 more tickets on the floor. How many tickets did Vince have in all?

4. Cara uses 1 gallon of water every time she brushes her teeth. She brushes her teeth two times per day. How much water does she use in one week?

Challenge

Brain Power

Solve. Show your work.

Solution methods may vary.

1. Robin invited 8 girls and 6 boys to her party. Her mom said she could invite 18 friends in all. How many more friends could Robin invite?

$$8 + 6 = 14$$

$$14 \begin{array}{cccc} \circ & \circ & \circ & \circ \\ 15 & 16 & 17 & 18 \end{array}$$

4 friends

2. At the first stop, 5 people got on the subway car. At the second stop, 3 people got off. At the third stop, 7 people got on. How many people were on the subway car then?



9 people

3. Vince went to the arcade 3 times. Each time he went he won 5 tickets for prizes. He found 3 more tickets on the floor. How many tickets did Vince have in all?

$$5 + 5 + 5 = 15$$

$$15 + 3 = 18$$

18 tickets

4. Cara uses 1 gallon of water every time she brushes her teeth. She brushes her teeth two times per day. How much water does she use in one week?

M
○○

T
○○

W
○○

TH
○○

F
○○

S
○○

S
○○

14 gallons

Challenge

Family Tree

Read the paragraph to solve. Show your work.

Angel, Mateo, Maddie, Noah, Hanna, John, and Ben are cousins. Angel is 18. Mateo is 12. Maddie and Noah are 7-year-old twins. Maddie and Noah went to camp last summer. John and Ben had summer jobs that paid them \$6 per hour. Angel and Hanna got ready to go to college.

1. How many of the cousins did not go to camp last summer?

2. Angel is the oldest and the twins are the youngest. How many of the cousins are older than 7 and younger than 18?

3. How many years younger is Mateo than Angel?

4. John worked at his job for 1 hour on Saturday and 2 hours on Sunday. How much money did he earn?

5. **Create Your Own** On a separate sheet of paper, write a problem of your own using information from the story.

Challenge

Family Tree

Read the paragraph to solve. Show your work.

Angel, Mateo, Maddie, Noah, Hanna, John, and Ben are cousins. Angel is 18. Mateo is 12. Maddie and Noah are 7-year-old twins. Maddie and Noah went to camp last summer. John and Ben had summer jobs that paid them \$6 per hour. Angel and Hanna got ready to go to college.

1. How many of the cousins did not go to camp last summer?

5 cousins; $7 - 2 = 5$

2. Angel is the oldest and the twins are the youngest. How many of the cousins are older than 7 and younger than 18?

4 cousins; $7 - 3 = 4$

3. How many years younger is Mateo than Angel?

6 years younger; $18 - 12 = 6$

4. John worked at his job for 1 hour on Saturday and 2 hours on Sunday. How much money did he earn?

\$18; $6 + 6 + 6 = 18$

5. **Create Your Own** On a separate sheet of paper, write a problem of your own using information from the story.

Answers will vary. Check children's work.