

“Five added to what number equals twelve?”

“Twelve minus five equals what number?”

Seven is the answer to both questions. First Jamie picked **7 apples**.

Some addition problems are about parts adding up to a whole.

Formula: Some + Some more = Total

Formula: Part + Part = Whole

The problem in Example 3 is about a whole class divided into two parts.

Example 3

There are 24 students in the whole class. If there are 14 boys in the class, how many girls are there?

One part of the class is boys and the other part is girls.

Formula: Part + Part = Whole

Problem: 14 boys + girls = 24 students

We can write the number sentence $14 + g = 24$.

Since $14 + 10 = 24$, we know that there are **10 girls** in the class.

 **Justify** Is the answer reasonable? How do you know?

Reading Math

We translate the problem using an addition formula.

One part: 14 boys
Other part: girls
Whole class:
24 students

Lesson Practice

Formulate Write and solve equations for problems a–c.

- Lucille had 4 marigolds. Lola gave her some more marigolds. Now Lucille has 12 marigolds. How many marigolds did Lola give Lucille?
- Twelve of the 25 students in the class were girls. How many boys were in the class?
- At 7:00 a.m. the air was cool, but by noon the temperature had increased 25 degrees to 68°F. What was the temperature at 7:00 a.m.?

Written Practice

Distributed and Integrated

Formulate Write and solve equations for problems 1 and 2.

- *1. If a winter day has 10 hours of daylight, then the day has how many hours of darkness? (*Hint:* A whole day has 24 hours.)

*2. Tamira read 6 pages before lunch. After lunch she read some more.
 (11) If Tamira read 13 pages in all, how many pages did she read after lunch?

3. **Represent** Use digits to write the number six hundred forty-two.
 (7)

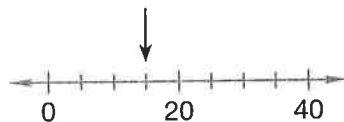
*4. **Represent** Use digits and symbols to write this comparison:
 (Inv. 1) "Negative twelve is less than zero."

*5. Compare: $-2 \bigcirc 2$
 (Inv. 1)

*6. Use the digits 5, 6, and 7 to write an even number between 560 and 650.
 (10)

*7. **Represent** To what number is each arrow pointing?
 (Inv. 1)

a.



b.



*8. **Analyze** The books were put into two stacks so that an equal number of books was in each stack. Was the total number of books an odd number or an even number? Explain your thinking.
 (10)

$$\begin{array}{r} 9. \quad 5 \\ \quad b \\ \hline + 7 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 10. \quad n \\ \quad 5 \\ \hline + 3 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 11. \quad 7 \\ \quad a \\ \hline + 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 12. \quad m \\ \quad 2 \\ \hline + 8 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 13. \quad 12 \\ \quad - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 14 \\ \quad - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 12 \\ \quad - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 13 \\ \quad - 6 \\ \hline \end{array}$$

$$\begin{array}{r} *17. \quad 74 \\ \quad + 18 \\ \hline \end{array}$$

$$\begin{array}{r} *18. \quad 93 \\ \quad + 39 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 28 \\ \quad + 45 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 28 \\ \quad + 47 \\ \hline \end{array}$$

Conclude Write the next three numbers in each counting sequence:

*21. ..., 12, 9, 6, _____, _____, _____, ...
(inv. 3)

22. ..., 30, 36, 42, _____, _____, _____, ...
(3)

*23. **Connect** The numbers 5, 9, and 14 form a fact family. Write two addition facts and two subtraction facts using these three numbers.
(6)

24. $4 + 3 + 5 + 8 + 7 + 6 + 2$
(1)

25. **List** Show six ways to add 7, 8, and 9.
(1)

*26. **Multiple Choice** If $3 + \blacktriangle = 7$ and if $\blacksquare = 5$, then $\blacktriangle + \blacksquare$ equals which of the following?
(1)

A 4

B 5

C 8

D 9

*27. How many different odd three-digit numbers can you write using the digits 5, 0, and 9? Each digit may be used only once, and the digit 0 may not be used in the hundreds place.
(10)

*28. Compare. Write $>$, $<$, or $=$.
(inv. 1)

a. $89 \bigcirc 94$

b. $409 \bigcirc 177$

c. $61 \bigcirc 26$

*29. The land areas of three counties are shown in the table.
(7)

Write the names of the counties in order from smallest area to largest area.

Land Area by County

County	State	Area (sq mi)
Cass	Iowa	564
Hood River	Oregon	522
Weber	Utah	576

*30. **Formulate** Write and solve an addition word problem. Then explain why your answer is reasonable.
(1)