Another way is to ask a subtraction question.

"Seventeen minus eight equals what number?"

$$17 - 8 = M$$

Both questions have the same answer, nine. Lamont gave Walter **9 marbles**

Example 2 Jamie had some pies. Then Frank gave her 5 more pies. Now Jamie has 12 pies. How many pies did Jamie have at first?

Solution This is a "some and some more" story problem. We fill in the pattern.

Some	N pies
+ Some more	+ 5 pies
Total	12 pies

Finding the answer is easy now. We can find the missing number by asking an addition question or by asking a subtraction question.

"Five added to what number equals twelve?" (7)

"Twelve minus five equals what number?" (7)

Seven is the answer to either question. At first Jamie had **7 pies.**

LESSON PRACTICE

Practice set For each problem, write an addition pattern. Then work the problem.

a. Lucille had 4 marigolds. Lola gave her some more marigolds. Now Lucille has 12 marigolds. How many marigolds did Lola give Lucille?

b. Sid had some agates. Then he found 8 more agates. Now he has 15 agates. How many agates did he have at first?

MIXED PRACTICE

Problem set

1. (1) Carmela saw 4 horses at the fair. Then she saw 13 horses on a farm. How many horses did Carmela see in all?

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

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

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

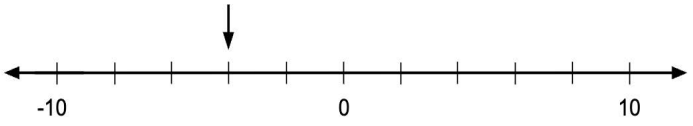
5. (Inv. 1) Compare: $-2 \bigcirc 2$

6. (10) List the five three-digit odd numbers that have a 5 in the hundreds place and a 7 in the tens place.

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

(a)

(b)



8. (10) 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?

9. (2)
$$\begin{array}{r} 5 \\ B \\ +\ 7 \\ \hline 18 \end{array}$$

10. (2)
$$\begin{array}{r} N \\ 5 \\ +\ 3 \\ \hline 15 \end{array}$$

11. (2)
$$\begin{array}{r} 7 \\ A \\ +\ 4 \\ \hline 12 \end{array}$$

12. (2)
$$\begin{array}{r} M \\ 2 \\ +\ 8 \\ \hline 14 \end{array}$$

13. (6) $\begin{array}{r} 12 \\ -\ 3 \\ \hline \end{array}$

14. (6) $\begin{array}{r} 14 \\ -\ 7 \\ \hline \end{array}$

15. (6) $\begin{array}{r} 12 \\ -\ 8 \\ \hline \end{array}$

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

17. (9) $\begin{array}{r} 74 \\ +\ 18 \\ \hline \end{array}$

18. (9) $\begin{array}{r} 93 \\ +\ 39 \\ \hline \end{array}$

19. (9) $\begin{array}{r} 28 \\ +\ 45 \\ \hline \end{array}$

20. (9) $\begin{array}{r} 28 \\ +\ 47 \\ \hline \end{array}$

Write the next three numbers in each counting sequence:

21. (Inv. 1) ..., 12, 9, 6, ____, ____, ____, ...

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

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

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

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

26. (1) If 3 + ▲ = 7 and if ■ = 5, then ▲ + ■ equals which of the following?

A. 4 C. 8 D. 9

Solution We may either "subtract down" or "add up." Which way seems easier?

SUBTRACT DOWN		ADD UP
Fourteen minus what number equals six?	$\begin{array}{r} 14 \\ -\ N \\ \hline 6 \end{array}$	Six plus what number equals fourteen?

Often it is easier to find a missing number in a subtraction problem by "adding up." If we add 8 to 6, we get 14. So the missing number is **8.** We can check our answer by replacing N with 8 in the original problem.

$$\begin{array}{r} 14 \\ -\ 8 \\ \hline 6 \end{array} \quad \text{check}$$

Since $14 - 8 = 6$, we know our answer is correct.

Example 2 Find the missing number: $\begin{array}{r} B \\ -\ 5 \\ \hline 7 \end{array}$

Solution Try both "subtracting down" and "adding up."

SUBTRACT DOWN		ADD UP
What number minus five equals seven?	$\begin{array}{r} B \\ -\ 5 \\ \hline 7 \end{array}$	Seven plus five equals what number?

Since 7 plus 5 is 12, the missing number must be **12.** We replace B with 12 in the original problem to check our answer.

$$\begin{array}{r} 12 \\ -\ 5 \\ \hline 7 \end{array} \quad \text{check}$$

LESSON PRACTICE

Practice set Find each missing number. Check your answers.

a. $\begin{array}{r} 14 \\ -\ N \\ \hline 6 \end{array}$ **b.** $\begin{array}{r} N \\ -\ 5 \\ \hline 2 \end{array}$ **c.** $\begin{array}{r} 9 \\ -\ N \\ \hline 2 \end{array}$ **d.** $\begin{array}{r} N \\ -\ 7 \\ \hline 5 \end{array}$

MIXED PRACTICE

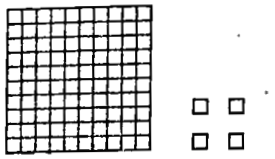
Problem set

1. *(11)* Laura found nine acorns in the forest. Then she found some more acorns in her backyard. If Laura found seventeen acorns in all, how many acorns did she find in the backyard?

2. *(1, 9)* At first thirty-five butterflies were flying about. Later, twenty-seven more butterflies began to fly about. In all, how many butterflies were flying about?

3. *(7)* Use digits to write the number seven hundred fifteen.

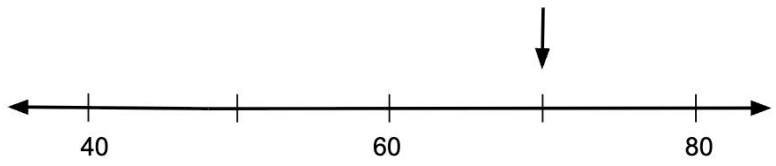
4. *(7)* Use words to write the number shown by this model:



5. *(5)* Nathan's little sister was born on the seventh day of June in 2002. Write her birth date in month/day/year form.

6. *(4)* Write the largest three-digit number that has a **6** in the ones place and a **4** in the tens

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



8. *(2)*
$$\begin{array}{r} 5 \\ N \\ +\ 6 \\ \hline 15 \end{array}$$

9. *(2)*
$$\begin{array}{r} A \\ 2 \\ +\ 5 \\ \hline 15 \end{array}$$

10. *(2)*
$$\begin{array}{r} 7 \\ 2 \\ +\ N \\ \hline 15 \end{array}$$

11. *(2)*
$$\begin{array}{r} 4 \\ A \\ +\ 2 \\ \hline 15 \end{array}$$

12. *(12)*
$$\begin{array}{r} N \\ -\ 6 \\ \hline 8 \end{array}$$

13. *(6)*
$$\begin{array}{r} 16 \\ -\ 8 \\ \hline \end{array}$$

14. *(6)*
$$\begin{array}{r} 14 \\ -\ 7 \\ \hline \end{array}$$

15. *(12)*
$$\begin{array}{r} 12 \\ -\ A \\ \hline 7 \end{array}$$

16. *(12)*
$$\begin{array}{r} B \\ -\ 6 \\ \hline 6 \end{array}$$

17. *(12)*
$$\begin{array}{r} 13 \\ -\ C \\ \hline 8 \end{array}$$

18. *(9)*
$$\begin{array}{r} \$48 \\ +\ \$16 \\ \hline \end{array}$$

19. *(9)*
$$\begin{array}{r} \$37 \\ +\ \$14 \\ \hline \end{array}$$

Write the next three numbers in each counting sequence:

20. (3) ..., 28, 35, 42, _____, _____, ...

21. (3) ..., 18, 21, 24, _____, _____, _____, ...

22. (3) How many cents is nine nickels? Count by fives.

23. (Inv. 1) Compare: $-3 \bigcirc -5$

24. (Inv. 1) Write the number that is eleven less than zero

(a) using words.

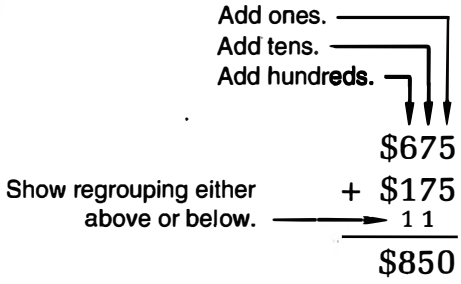
(b) using digits.

25. (1) $7 + 3 + 8 + 5 + 4 + 3 + 2$

26. (6) "Five subtracted from N" can be written as which of the following?

A. $5 - N$ B. $N - 5$ C. $5 + N$ D. $N + 5$

We can also use pencil and paper to solve this problem. First we add the ones and regroup. Then we add the tens and regroup. As a final step we add the hundreds.



Example Add:
$$\begin{array}{r} 456 \\ +\ 374 \\ \hline \end{array}$$

Solution We begin by adding the digits in the ones column, and we move one column at a time to the left. We write the first digit of two-digit answers either above or below the next place's column. The sum is **830.**

$$\begin{array}{r} {\scriptstyle 1\,1} \\ 456 \\ +\ 374 \\ \hline 830 \end{array}$$

LESSON PRACTICE

Practice set Add:

a. $\begin{array}{r} \$579 \\ +\ \$186 \\ \hline \end{array}$ **b.** $\begin{array}{r} 408 \\ +\ 243 \\ \hline \end{array}$ **c.** $\begin{array}{r} \$498 \\ +\ \$\ 89 \\ \hline \end{array}$

d. \$458 + \$336 **e.** 56 + 569

MIXED PRACTICE

Problem set

1. (1, 9) Seventy-seven children ran in circles and waved their arms. Nineteen children watched in amazement. How many children were there in all?

2. (11) Five of the twelve children at the party were girls. How many boys were at the party?

3. (7) Use words to write the number 913.

4. (7) Use digits to write the number seven hundred forty-three.

5. (Inv. 1) Use digits and symbols to write this comparison: "Seventy-five is greater than negative eighty."

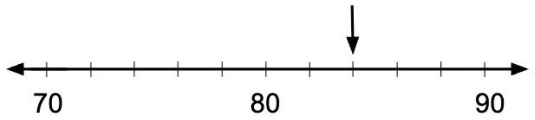
6. *(Inv. 1)* Compare:

(a) 413 ◯ 314 (b) −4 ◯ 3

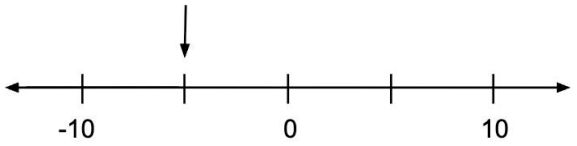
7. *(6)* The numbers 7, 9, and 16 form a fact family. Write two addition facts and two subtraction facts using these three numbers.

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

(a)



(b)



9. *(13)*
$$\begin{array}{r} \$475 \\ +\ \$332 \\ \hline \end{array}$$

10. *(13)*
$$\begin{array}{r} \$714 \\ +\ \$226 \\ \hline \end{array}$$

11. *(13)*
$$\begin{array}{r} 743 \\ +\ 187 \\ \hline \end{array}$$

12. *(13)*
$$\begin{array}{r} 576 \\ +\ 228 \\ \hline \end{array}$$

13. *(2)*
$$\begin{array}{r} 8 \\ 5 \\ +\ K \\ \hline 17 \end{array}$$

14. *(2)*
$$\begin{array}{r} 4 \\ N \\ +\ 6 \\ \hline 15 \end{array}$$

15. *(2)*
$$\begin{array}{r} 9 \\ A \\ +\ 6 \\ \hline 17 \end{array}$$

16. *(2)*
$$\begin{array}{r} N \\ 3 \\ +\ 7 \\ \hline 16 \end{array}$$

17. *(12)*
$$\begin{array}{r} 8 \\ -\ N \\ \hline 2 \end{array}$$

18. *(6)*
$$\begin{array}{r} 17 \\ -\ 8 \\ \hline \end{array}$$

19. *(6)*
$$\begin{array}{r} 13 \\ -\ 7 \\ \hline \end{array}$$

20. *(12)*
$$\begin{array}{r} N \\ -\ 8 \\ \hline 7 \end{array}$$

21. *(12)*
$$\begin{array}{r} 14 \\ -\ N \\ \hline 6 \end{array}$$

22. *(12)*
$$\begin{array}{r} 16 \\ -\ A \\ \hline 9 \end{array}$$

23. *(12)*
$$\begin{array}{r} N \\ -\ 9 \\ \hline 7 \end{array}$$

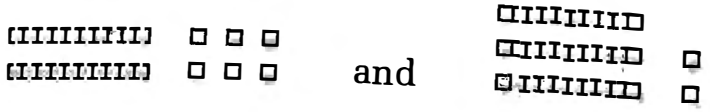
24. *(9)*
$$\begin{array}{r} \$49 \\ +\ \$76 \\ \hline \end{array}$$

25. *(3, Inv. 1)* Write the next three numbers in each counting sequence:

(a) ..., 28, 35, 42, ____ ____ ____, ...

(b) ..., 15, 10, 5, ____ ____ ____, ...

26. *(7)* What number shows the total if these sets are put together?



A. 26 B. 32 C. 58 D. 13

Solution The letter W stands for a two-digit number. We first find the missing digit in the ones place. Then we find the missing digit in the tens place.

$$\begin{array}{r} 36 \\ +\ W \\ \hline 87 \end{array}$$

Six plus what number is seven? (1)
Three plus what number is eight? (5)

The missing addend is **51.**

We check our answer by replacing W with 51 in the original problem.

$$\begin{array}{r} 36 \\ +\ W \\ \hline 87 \end{array} \qquad \begin{array}{r} 36 \\ +\ 51 \\ \hline 87 \end{array} \quad \text{check}$$

Example 4 Find the missing addend: $M + 17 = 49$

Solution We want to find the number that combines with 17 to total 49. The missing addend contains two digits. We will find the digits one at a time.

$$\begin{array}{r} M \\ +\ 17 \\ \hline 49 \end{array}$$

Two plus seven is nine.
Three plus one is four.

We find that the missing number is **32.** We check our answer.

$$M + 17 = 49$$
$$32 + 17 = 49 \quad \text{check}$$

LESSON PRACTICE

Practice set Solve problems **a** and **b** using money manipulatives. Then subtract using pencil and paper.

a. \$485 − \$242

b. \$56 − \$33

c. Subtract 53 from 97.

d. Subtract twenty-three from fifty-four.

Find the missing addend in each problem:

e.
$$\begin{array}{r} 24 \\ +\ Q \\ \hline 65 \end{array}$$

f.
$$\begin{array}{r} M \\ +\ 31 \\ \hline 67 \end{array}$$

g. $36 + W = 99$

h. $Y + 45 = 99$

MIXED PRACTICE

Problem set

1. (1) Forty-two red surfboards were on the first wave. Seventeen red surfboards were on the second wave. How many red surfboards were on the first two waves?

2. (11) Mariabella saw four green grasshoppers in the first hour. In the second hour she saw some more green grasshoppers. She saw eleven green grasshoppers in all. How many green grasshoppers did she see in the second hour?

3. (10) Use the digits 1, 2, and 3 once each to write an even number less than 200.

4. (6) Use the numbers 9, 7, and 2 to write two addition facts and two subtraction facts.

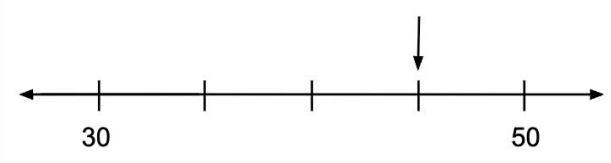
5. (14) Subtract seven hundred thirteen from eight hundred twenty-four.

6. (Inv. 1) Compare:

(a) 704 ◯ 407 (b) −3 ◯ −5

7. (5) What is the total number of days in the first two months of a common year?

8. (Inv. 1) To what number is the arrow pointing?



9. (13)
$$\begin{array}{r} \$346 \\ +\ \$298 \\ \hline \end{array}$$

10. (13)
$$\begin{array}{r} 499 \\ +\ 275 \\ \hline \end{array}$$

11. (13)
$$\begin{array}{r} \$421 \\ +\ \$389 \\ \hline \end{array}$$

12. (13)
$$\begin{array}{r} 506 \\ +\ 210 \\ \hline \end{array}$$

13. (14)
$$\begin{array}{r} \$438 \\ -\ \$206 \\ \hline \end{array}$$

14. (12)
$$\begin{array}{r} 17 \\ -\ A \\ \hline 9 \end{array}$$

15. (1)
$$\begin{array}{r} 7 \\ +\ B \\ \hline 14 \end{array}$$

16. (12)
$$\begin{array}{r} 5 \\ -\ C \\ \hline 2 \end{array}$$

17. (1)
$$\begin{array}{r} 8 \\ +\ D \\ \hline 15 \end{array}$$

18. (12)
$$\begin{array}{r} 15 \\ -\ K \\ \hline 9 \end{array}$$

19. (2)
$$\begin{array}{r} 3 \\ N \\ +\ 2 \\ \hline 13 \end{array}$$

20. (14)
$$\begin{array}{r} 476 \\ -\ 252 \\ \hline \end{array}$$

21. (14)
$$\begin{array}{r} 47 \\ -\ 16 \\ \hline \end{array}$$

22. (14)
$$\begin{array}{r} 28 \\ -\ 13 \\ \hline \end{array}$$

23. (14)
$$\begin{array}{r} 75 \\ +\ T \\ \hline 87 \end{array}$$

24. (14)
$$\begin{array}{r} 24 \\ +\ E \\ \hline 67 \end{array}$$

25. (3, Inv. 1) Write the next three numbers in each counting sequence:

(a) ..., 81, 72, 63, _____, _____, ___ __, ...

(b) ..., 12, 8, 4, _____, _____ _____, ...

26. (12) If $\square - 7 = 2$, then which of these is not true?

A. $7 - \square = 2$

B. $\square - 2 = 7$

C. $2 + 7 = \square$

D. $\square = 7 + 2$

add it to the 6. This makes "50 and 6" into "40 and 16," which is still equal to 56.

$$\begin{array}{r} \overset{40}{\cancel{50}}\ \text{and}\ \overset{1}{6} \\ -\ 20\ \text{and}\ 9 \\ \hline 20\ \text{and}\ 7 \end{array}$$

We subtract and get "20 and 7," which is **27.** This is how we usually show the regrouping:

$$\begin{array}{r} \overset{4}{\cancel{5}}\ \overset{1}{6} \\ -\ 2\ 9 \\ \hline 2\ 7 \end{array}$$

LESSON PRACTICE

Practice set Use money manipulatives or draw pictures to show each subtraction:

a. $\begin{array}{r} \$53 \\ -\ \$29 \\ \hline \end{array}$ **b.** $\begin{array}{r} \$56 \\ -\ \$27 \\ \hline \end{array}$ **c.** $\begin{array}{r} \$42 \\ -\ \$24 \\ \hline \end{array}$ **d.** $\begin{array}{r} \$60 \\ -\ \$27 \\ \hline \end{array}$

Use pencil and paper to find each difference:

e. 63 − 36 **f.** 40 − 13

g. 72 − 24 **h.** 24 − 18

MIXED PRACTICE

Problem set

1. (1, 13) Jimmy found six hundred eighteen acorns under one tree. He found one hundred seventeen acorns under another tree. How many acorns did Jimmy find in all?

2. (11, 14) On the first day Richard the Lion-Hearted had sixteen knights. On the second day some more knights arrived, giving him a total of seventy-six knights. How many knights arrived on the second day?

3. (10) Use the digits 3, 6, and 7 once each to write an even number less than 400.

4. (7) Use words to write the number 605.

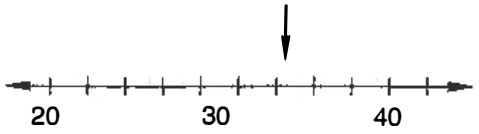
5. (10) The smallest two-digit odd number is 11. What is the smallest two-digit even number?

6. (Inv. 1) Compare:

(a) $75 \bigcirc 57$ (b) $5 + 7 \bigcirc 4 + 8$

7. (14) Subtract 245 from 375.

8. (Inv. 1) To what number is the arrow pointing?



9. (13)
$$\begin{array}{r} \$426 \\ +\ \$298 \\ \hline \end{array}$$

10. (13)
$$\begin{array}{r} \$278 \\ +\ \$456 \\ \hline \end{array}$$

11. (13)
$$\begin{array}{r} 721 \\ +\ 189 \\ \hline \end{array}$$

12. (13)
$$\begin{array}{r} 409 \\ +\ 198 \\ \hline \end{array}$$

13. (1)
$$\begin{array}{r} D \\ +\ 7 \\ \hline 12 \end{array}$$

14. (12)
$$\begin{array}{r} 18 \\ -\ A \\ \hline 9 \end{array}$$

15. (14)
$$\begin{array}{r} 38 \\ +\ B \\ \hline 59 \end{array}$$

16. (12)
$$\begin{array}{r} C \\ -\ 4 \\ \hline 1 \end{array}$$

17. (14)
$$\begin{array}{r} \$456 \\ -\ \$120 \\ \hline \end{array}$$

18. (15)
$$\begin{array}{r} \$54 \\ -\ \$27 \\ \hline \end{array}$$

19. (15)
$$\begin{array}{r} 46 \\ -\ 28 \\ \hline \end{array}$$

20. (15)
$$\begin{array}{r} 35 \\ -\ 16 \\ \hline \end{array}$$

21. (5) What is the total number of days in the last two months of the year?

22. (6) The numbers 5, 6, and 11 form a fact family. Write four addition/subtraction facts using these three numbers.

23. (1) $3 + 6 + 7 + 5 + 4 + 8$

Write the next three numbers in each counting sequence:

24. (3) ..., 72, 63, 54, _____, _____, _____.

25. (Inv. 1) ..., –7, –14, –21, _____, _____, _____, ...

26. (1) If $\square = 6$ and if $\square + \Delta = 10$, then Δ equals which of the following?

A. 3 B. 4 C. 5 D. 6

ADD UP

$$\begin{array}{r} N \\ -\ 36 \\ \hline 43 \end{array}$$

Three plus six is nine.
Four plus three is seven.

We find that the missing number is 79.

Example 3 Find the missing number:

$$\begin{array}{r} 64 \\ -\ W \\ \hline 31 \end{array}$$

Solution We may find the missing number one digit at a time by "subtracting down" or "adding up."

$$\begin{array}{r} 64 \\ -\ W \\ \hline 31 \end{array}$$

Four minus what number is one? (3)
Six minus what number is three? (3)

or

$$\begin{array}{r} 64 \\ -\ W \\ \hline 31 \end{array}$$

One plus what number is four? (3)
Three plus what number is six? (3)

We find that the missing number is **33.** We check our work by using 33 in place of W in the original problem.

$$\begin{array}{r} 64 \\ -\ W \\ \hline 31 \end{array} \qquad \begin{array}{r} 64 \\ -\ 33 \\ \hline 31 \end{array} \quad \text{check}$$

LESSON PRACTICE

Practice set*† Write each number in expanded form:

a. 86 **b.** 325 **c.** 507

Find each missing number:

d. $\begin{array}{r} 36 \\ -\ P \\ \hline 21 \end{array}$ **e.** $\begin{array}{r} 47 \\ -\ Q \\ \hline 24 \end{array}$ **f.** $\begin{array}{r} M \\ -\ 22 \\ \hline 16 \end{array}$

g. $W - 32 = 43$ **h.** $43 - X = 32$

†The asterisk after "Practice set" indicates that additional practice problems intended for remediation are available in the appendix.

MIXED PRACTICE

Problem set

1. *(11, 14)* Twenty-three horses grazed in the pasture. The rest of the horses were in the corral. If there were eighty-nine horses in all, how many horses were in the corral?

2. *(1, 13)* Three hundred seventy-five bats hung silently in the cave. The other one hundred seven bats in the cave were squeaking and flying to and fro. Altogether, how many bats were in the cave?

3. *(6)* Use the numbers 22, 33, and 55 to write two addition facts and two subtraction facts.

4. *(16)* Write 782 in expanded form.

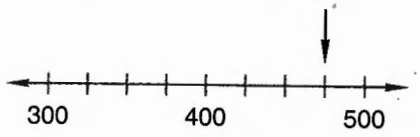
5. *(10)* The largest three-digit odd number is 999. What is the smallest three-digit even number?

6. *(Inv. 1)* Compare:

(a) 918 ◯ 819 (b) −7 ◯ −5

7. *(3)* How many days are in 6 weeks? Count by sevens.

8. *(Inv. 1)* To what number is the arrow pointing?



9. *(13)*
$$\begin{array}{r} \$576 \\ +\ \$128 \\ \hline \end{array}$$

10. *(13)*
$$\begin{array}{r} \$243 \\ +\ \$578 \\ \hline \end{array}$$

11. *(13)*
$$\begin{array}{r} 186 \\ +\ 285 \\ \hline \end{array}$$

12. *(13)*
$$\begin{array}{r} 329 \\ +\ 186 \\ \hline \end{array}$$

13. *(14)*
$$\begin{array}{r} D \\ +\ 12 \\ \hline 17 \end{array}$$

14. *(12)*
$$\begin{array}{r} 17 \\ -\ A \\ \hline 9 \end{array}$$

15. *(1)*
$$\begin{array}{r} 8 \\ +\ B \\ \hline 14 \end{array}$$

16. *(12)*
$$\begin{array}{r} C \\ -\ 7 \\ \hline 2 \end{array}$$

17. *(15)*
$$\begin{array}{r} 25 \\ -\ 19 \\ \hline \end{array}$$

18. *(15)*
$$\begin{array}{r} 42 \\ -\ 28 \\ \hline \end{array}$$

19. *(15)*
$$\begin{array}{r} 46 \\ -\ 18 \\ \hline \end{array}$$

20. *(15)*
$$\begin{array}{r} 42 \\ -\ 16 \\ \hline \end{array}$$

21. *(16)*
$$\begin{array}{r} 68 \\ -\ D \\ \hline 34 \end{array}$$

22. *(16)*
$$\begin{array}{r} B \\ -\ 34 \\ \hline 15 \end{array}$$

23. *(16)*
$$\begin{array}{r} 62 \\ -\ H \\ \hline 21 \end{array}$$

24. *(16)*
$$\begin{array}{r} L \\ -\ 46 \\ \hline 32 \end{array}$$

25. (3, Inv. 1) Write the next three numbers in each counting sequence:

(a) ..., 16, 20, 24, ____, ____, ____, ...

(b) ..., 16, 12, 8, ____ ____ ____, ...

26. (6) If $N - 3 = 6$, then which of these number sentences is not true?

A. $6 + 3 = N$

B. $3 + 6 = N$

C. $6 - 3 = N$

D. $N - 6 = 3$

Example 2 Add: 227 + 88 + 6

Solution We line up the last digits of the numbers. Then we add the digits in the ones column and get 21.

$$\begin{array}{r} 227 \\ 88 \\ +\ \ 6 \\ \hline (21) \end{array}$$

The number 21 is 2 tens plus 1 one. We record the 1 in the ones place and write the 2 in the tens column. Then we add the tens and get 12 tens.

$$\begin{array}{r} {\scriptstyle 2} \\ 227 \\ 88 \\ +\ \ 6 \\ \hline (12)1 \end{array}$$

We record the 2 in the tens place and write the 1, which is 1 hundred, in the hundreds column. Then we finish adding.

$$\begin{array}{r} {\scriptstyle 1\,2} \\ 227 \\ 88 \\ +\ \ 6 \\ \hline 321 \end{array}$$

LESSON PRACTICE

Practice set* Add:

a.
$$\begin{array}{r} 47 \\ 29 \\ 46 \\ +\ 95 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 28 \\ 47 \\ +\ 65 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 38 \\ 22 \\ 31 \\ +\ 46 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 438 \\ 76 \\ +\ \ 5 \\ \hline \end{array}$$

e. 15 + 24 + 11 + 25 + 36

MIXED PRACTICE

Problem set

1. (11) One doctor put in twenty-four stitches. A second doctor put in some more stitches. There were seventy-five stitches in all. How many stitches did the second doctor put in?

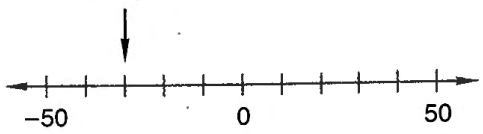
2. (1, 13) Four hundred seven roses were in front. Three hundred sixty-two roses were in back. How many roses were there in all?

3. (10) Use the digits 9, 2, and 8 once each to write an even number less than 300.

4. (7, 16) Write 813 in expanded form. Then use words to write the number.

5. (10) The largest two-digit even number is 98. What is the smallest two-digit odd number?

6. (Inv. 1) To what number is the arrow pointing?



7. (17)
$$\begin{array}{r} 294 \\ 312 \\ +\ \ 5 \\ \hline \end{array}$$

8. (13)
$$\begin{array}{r} \$189 \\ +\ \$298 \\ \hline \end{array}$$

9. (13)
$$\begin{array}{r} \$378 \\ +\ \$496 \\ \hline \end{array}$$

10. (13)
$$\begin{array}{r} 109 \\ +\ 486 \\ \hline \end{array}$$

11. (17) $14 + 28 + 35 + 16 + 227$

12. (12) $14 - A = 7$

13. (1) $8 + B = 14$

14. (16) $C - 13 = 5$

15. (12)
$$\begin{array}{r} 11 \\ -\ D \\ \hline 9 \end{array}$$

16. (12)
$$\begin{array}{r} E \\ -\ 5 \\ \hline 8 \end{array}$$

17. (15)
$$\begin{array}{r} 38 \\ -\ 29 \\ \hline \end{array}$$

18. (15)
$$\begin{array}{r} 57 \\ -\ 38 \\ \hline \end{array}$$

19. (14)
$$\begin{array}{r} 34 \\ +\ B \\ \hline 86 \end{array}$$

20. (16)
$$\begin{array}{r} 48 \\ -\ C \\ \hline 25 \end{array}$$

21. (16)
$$\begin{array}{r} D \\ -\ 46 \\ \hline 12 \end{array}$$

22. (16)
$$\begin{array}{r} Y \\ -\ 15 \\ \hline 24 \end{array}$$

Write the next three numbers in each counting sequence:

23. (3) ..., 48, 44, 40, _____, _____, _____, ...

24. (3) ..., 12, 15, 18, _____, _____, _____, ...

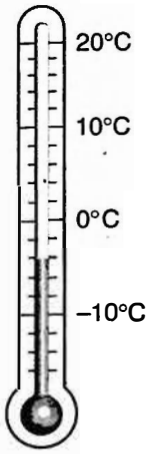
25. (6) The numbers 6, 9, and 15 form a fact family. Write four addition/subtraction facts using these three numbers.

26. (1, 6) Nancy is thinking of two numbers whose sum is 10 and whose difference is 2. What are the two numbers?

A. 2 and 8 B. 3 and 7

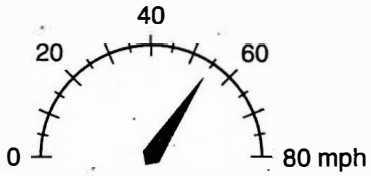
C. 6 and 4 D. 2 and 10

Example 2 What temperature is shown on this Celsius thermometer?



Solution Most of the world uses the Celsius scale to measure temperature. On this thermometer we see that the tick marks are also two degrees apart. If we count down by twos from zero, we find that the temperature shown is four degrees below zero, which we write as **−4°C.** Water freezes at 0°C, so −4°C is below freezing.

Example 3 This speedometer shows speed in miles per hour (mph). How fast is the car with this speedometer traveling?

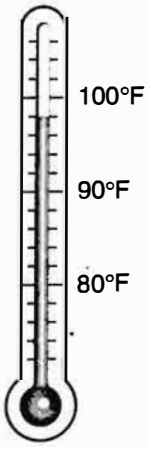


Solution By trying different counts on the scale, we find that each space equals five. If we count up by fives from 40, we see that the needle points to 55. So the car is traveling at a speed of **55 mph.**

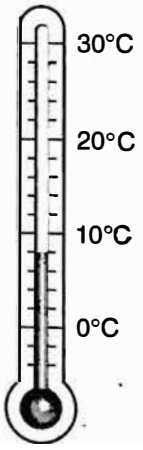
LESSON PRACTICE

Practice set What measurement is shown on each of these scales? Include correct units.

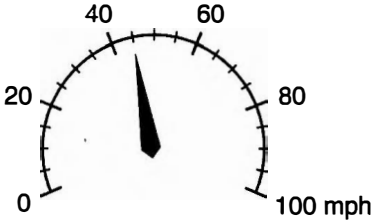
a.



b.



c.



MIXED PRACTICE

Problem set

1. (11, 14) Tomas ran to the fence and back in 58 seconds. If it took Tomas 21 seconds to run to the fence, how many seconds did it take him to run back from the fence?

2. (1, 13) Two hundred ninety-seven boys and three hundred fifteen girls went to the camp. How many children went to the camp? Write a number sentence for this problem.

3. (6) Use the numbers 8, 17, and 9 to write two addition facts and two subtraction facts.

4. (4) The tens digit is 4. The ones digit is 9. The number is between 200 and 300. What is the number?

5. (3, 5) What is the eighth number in this counting sequence?

4, 8, 12, 16, ...

6. (Inv. 1) To what number is the arrow pointing?

7. (13)
$$\begin{array}{r} \$392 \\ +\ \$278 \\ \hline \end{array}$$

8. (13)
$$\begin{array}{r} \$439 \\ +\ \$339 \\ \hline \end{array}$$

9. (13)
$$\begin{array}{r} 774 \\ +\ 174 \\ \hline \end{array}$$

10. (13)
$$\begin{array}{r} 389 \\ +\ 398 \\ \hline \end{array}$$

11. (17)
$$\begin{array}{r} 13 \\ 25 \\ 46 \\ 25 \\ +\ 29 \\ \hline \end{array}$$

12. (16)
$$\begin{array}{r} 18 \\ -\ A \\ \hline 12 \end{array}$$

13. (1)
$$\begin{array}{r} 8 \\ +\ B \\ \hline 16 \end{array}$$

14. (12)
$$\begin{array}{r} C \\ -\ 5 \\ \hline 3 \end{array}$$

15. (15)
$$\begin{array}{r} 62 \\ -48 \\ \hline \end{array}$$

16. (15)
$$\begin{array}{r} 82 \\ -\ 58 \\ \hline \end{array}$$

17. (17)
$$\begin{array}{r} 28 \\ 36 \\ 57 \\ +\ 47 \\ \hline \end{array}$$

18. (16)
$$\begin{array}{r} 35 \\ -\ Y \\ \hline 14 \end{array}$$

19. (14)
$$\begin{array}{r} 45 \\ +\ P \\ \hline 55 \end{array}$$

20. (16)
$$\begin{array}{r} 75 \\ -\ L \\ \hline 42 \end{array}$$

21. (16)
$$\begin{array}{r} C \\ -\ 47 \\ \hline 31 \end{array}$$

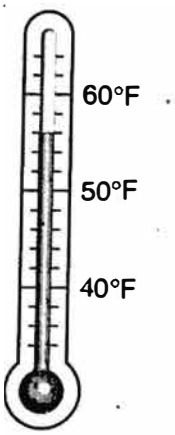
22. (14)
$$\begin{array}{r} E \\ +\ 15 \\ \hline 37 \end{array}$$

23. Write 498 in expanded form.
(16)

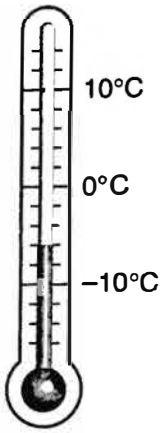
24. Compare:
(Inv. 1)
(a) 423 ◯ 432 (b) 3 ◯ −3

25. What temperature is shown on each thermometer?
(18)

(a)



(b)



26. Which of these numbers is an odd number greater than 750?
(10)

A. 846 B. 864 C. 903 D. 309

LESSON PRACTICE

Practice set If it is morning, what time is shown by each clock?

a.

b.

c.

d. Use digital form to show what time it is at ten minutes to nine in the evening.

e. How many hours equal a whole day?

f. How many minutes equal an hour?

g. How many seconds equal a minute?

MIXED PRACTICE

Problem set

1. *(11)* On the first day Sarah sharpened fifty-one pencils. She sharpened some more pencils on the second day. She sharpened seventy-six pencils in all. How many pencils did she sharpen on the second day?

2. *(11, 14)* Twelve of the twenty-seven children on the Ferris wheel are boys. How many girls are on the Ferris wheel?

3. *(6)* If $A + B = 9$, then what is the other addition fact for A, B, and 9? What are the two subtraction facts for A, B, and 9?

4. *(7, 16)* Write 905 in expanded form. Then use words to write the number.

5. *(Inv. 1)* Use digits and symbols to write this comparison: "One hundred twenty is greater than one hundred twelve."

6. *(19)* This clock shows that it is half past four. It is afternoon. Write the time shown in digital form.

7. *(18)* Water freezes at 32° on the Fahrenheit scale. At what temperature on the Celsius scale does water freeze?

8. (13)
$$\begin{array}{r} \$468 \\ +\ \$293 \\ \hline \end{array}$$

9. (13)
$$\begin{array}{r} 468 \\ +\ 185 \\ \hline \end{array}$$

10. (13)
$$\begin{array}{r} \$187 \\ +\ \$698 \\ \hline \end{array}$$

11. (12)
$$\begin{array}{r} 14 \\ -\ A \\ \hline 7 \end{array}$$

12. (1)
$$\begin{array}{r} 8 \\ +\ B \\ \hline 16 \end{array}$$

13. (12)
$$\begin{array}{r} C \\ -\ 8 \\ \hline 7 \end{array}$$

14. (12)
$$\begin{array}{r} 14 \\ -\ D \\ \hline 9 \end{array}$$

15. (15)
$$\begin{array}{r} 74 \\ -\ 58 \\ \hline \end{array}$$

16. (15)
$$\begin{array}{r} \$44 \\ -\ \$28 \\ \hline \end{array}$$

17. (15)
$$\begin{array}{r} 23 \\ -\ 18 \\ \hline \end{array}$$

18. (15)
$$\begin{array}{r} \$62 \\ -\ \$43 \\ \hline \end{array}$$

19. (17)
$$\begin{array}{r} 25 \\ 28 \\ 46 \\ +\ 88 \\ \hline \end{array}$$

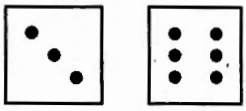
20. (16)
$$\begin{array}{r} 45 \\ -\ P \\ \hline 21 \end{array}$$

21. (14)
$$\begin{array}{r} 13 \\ +\ B \\ \hline 37 \end{array}$$

22. (16)
$$\begin{array}{r} F \\ -\ 45 \\ \hline 32 \end{array}$$

23. (3) How many quarters are equal to four dollars? Count by fours.

24. (1) Write a number sentence for this picture:



25. (3, Inv. 1) Write the next three numbers in each counting sequence:

(a) ..., 8, 16, 24, _____, _____, _____, ...

(b) ..., 8, 6, 4, _____, _____, _____, ...

26. (12) If $9 - \Delta = 4$, then which of these is not true?

A. $9 - 4 = \Delta$

B. $\Delta - 4 = 9$

C. $4 + \Delta = 9$

D. $\Delta + 4 = 9$

LESSON PRACTICE

Practice set Round each number to the nearest ten. For each problem, draw a number line to show your work.

a. 78 **b.** 43 **c.** 61 **d.** 45

Round each amount of money to the nearest dollar:

e. $14.29 **f.** $8.95 **g.** $21.45 **h.** $29.89

MIXED PRACTICE

Problem set

1. *(11, 14)* Martine gathered a "whole bunch" of eggs one day. She gathered twenty-one eggs on the second day. If she gathered seventy-two eggs in all, how many were from the "whole bunch"?

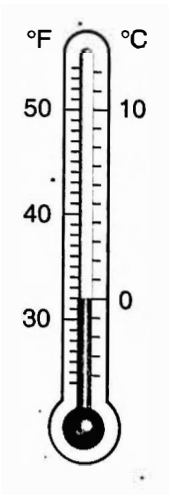
2. *(1, 13)* Four hundred seventy-six children stood quietly in one line. Three hundred ninety-seven children stood quietly in another line. Altogether, how many children stood quietly in line?

3. *(4)* The ones digit is 5. The tens digit is 6. The number is between 600 and 700. What is the number?

4. *(7, 16)* Write 509 in expanded form. Then use words to write the number.

5. *(Inv. 1)* Use digits and symbols to write this comparison: "Negative twenty is less than ten."

6. *(18)* This thermometer shows the temperature on both the Fahrenheit and Celsius scales. Write the temperature shown in degrees Fahrenheit and in degrees Celsius.



7. (19) It is a quarter after four in the afternoon. Write the time shown in digital form.

8. (20) Round each number to the nearest ten:
(a) 47 (b) 74

9. (13)
$$\begin{array}{r} \$476 \\ +\ \$285 \\ \hline \end{array}$$

10. (13)
$$\begin{array}{r} \$185 \\ +\ \$499 \\ \hline \end{array}$$

11. (13)
$$\begin{array}{r} 568 \\ +\ 397 \\ \hline \end{array}$$

12. (13)
$$\begin{array}{r} 478 \\ +\ 196 \\ \hline \end{array}$$

13. (12)
$$\begin{array}{r} 17 \\ -\ A \\ \hline 9 \end{array}$$

14. (12)
$$\begin{array}{r} 14 \\ -\ B \\ \hline 14 \end{array}$$

15. (12)
$$\begin{array}{r} 13 \\ -\ C \\ \hline 6 \end{array}$$

16. (15)
$$\begin{array}{r} \$35 \\ -\ \$28 \\ \hline \end{array}$$

17. (15)
$$\begin{array}{r} 23 \\ -\ 15 \\ \hline \end{array}$$

18. (15)
$$\begin{array}{r} 63 \\ -\ 36 \\ \hline \end{array}$$

19. (15)
$$\begin{array}{r} 74 \\ -\ 59 \\ \hline \end{array}$$

20. (14)
$$\begin{array}{r} M \\ +\ 22 \\ \hline 45 \end{array}$$

21. (16)
$$\begin{array}{r} K \\ -\ 15 \\ \hline 32 \end{array}$$

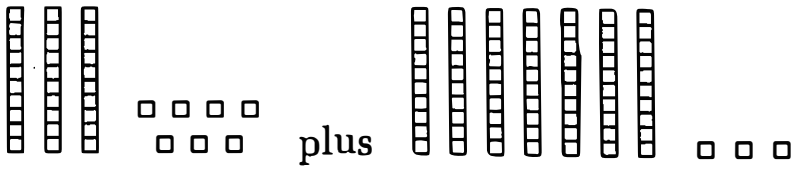
22. (16)
$$\begin{array}{r} 47 \\ -\ K \\ \hline 34 \end{array}$$

23. (17)
$$\begin{array}{r} 28 \\ 36 \\ 44 \\ +\ 58 \\ \hline \end{array}$$

24. (17)
$$\begin{array}{r} 49 \\ 28 \\ 32 \\ +\ 55 \\ \hline \end{array}$$

25. (20) Round each amount of money to the nearest dollar:
(a) \$25.67 (b) \$14.42

26. (7, 9) Which number sentence describes this model?



A. 307 + 703 = 1010
B. 37 + 73 = 100
C. 37 + 73 = 110
D. 37 + 73 = 1010