

Name _____ Date _____

Use Expanded Form to Subtract

Use base-ten pieces to solve each problem. Then solve them using expanded form.

1. A. $57 - 36 = \underline{\hspace{2cm}}$

B. $57 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$
 $36 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

2. A. $94 - 69 = \underline{\hspace{2cm}}$

B. $94 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$
 $69 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

3. A. $167 - 86 = \underline{\hspace{2cm}}$

B. $167 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$
 $86 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

4. Use expanded form to solve $273 - 154$.

$273 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

$154 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

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✓ **Check-In: Question 5**

5. A. Show or tell how to estimate $93 - 47$.

B. Use base-ten pieces to solve $93 - 47$. Draw 93 with base-ten shorthand and then show how you used the pieces to solve it.

Base-Ten Shorthand

□ = flat
 | = skinny
 • = bit



C. Show how to use expanded form to solve $93 - 47$.

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Student Activity Book

Use Expanded Form to Subtract (SAB pp. 455–456)
Questions 1–5

1. A. 21
- B. $57 = 50 + 7$
 $\underline{36 = 30 + 6}$
 $20 + 1 = 21$
2. A. 25
- B. $94 = 90 + 4 = 80 + 14$
 $\underline{69 = 60 + 9 = 60 + 9}$
 $20 + 5 = 25$
3. A. 81
- B. $167 = 100 + 60 + 7 = 160 + 7$
 $\underline{86 = 80 + 6 = 80 + 6}$
 $80 + 1 = 81$
4. $273 = 200 + 70 + 3 = 200 + 60 + 13$
 $\underline{154 = 100 + 50 + 4 = 100 + 50 + 4}$
 $100 + 10 + 9 = 119$
5. A. Estimates will vary. Possible response: I think about friendly numbers. $93 - 47$ is about 50. $100 - 50 = 50$.



C. $93 = 90 + 3 = 80 + 13$
 $\underline{47 = 40 + 7 = 40 + 7}$
 $40 + 6 = 46$

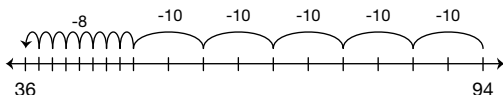
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Check Subtraction with Addition

(SAB pp. 457–458)

Questions 1–3

1. Yes, Elizabeth’s answer is correct. Responses will vary. Possible response: When she added her answer to the number she took away, she got the number she started with. I solved it another way to check: $94 - 58$



2. **A.** Mark’s answer is not correct. Responses will vary. Possible response: Mark is not correct because he subtracted wrong. I can tell because when he checked his subtraction with addition, he should have gotten 93.

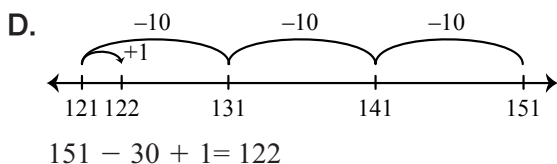
$$\begin{array}{r} 93 = 90 + 3 = 80 + 13 \\ 56 = 50 + 6 = 50 + 6 \\ \hline 30 + 7 = 37 \end{array}$$

B. $37 + 56 = 93$

3. **A.** Estimates will vary. Possible strategy: 120; Think about friendly numbers on the 200 Chart and count back three rows. 150, 140, 130, 120.

B. $151 = 100 + 50 + 1 = 100 + 40 + 11$
 $29 = \quad 20 + 9 = \quad 20 + 9$
 $100 + 20 + 2 = 122$

C. $122 + 29 = 151$



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Check Subtraction with Addition

Elizabeth used expanded form to solve $94 - 58$.

$$\begin{array}{r} 94 = 90 + 4 = 80 + 14 \\ 58 = 50 + 8 = 50 + 8 \\ \hline 30 + 6 = 36 \end{array}$$

She used addition to check her answer.

$$\begin{array}{r} 36 \text{ (my answer)} \\ + 58 \text{ (the number I took away)} \\ 80 \\ - 14 \\ \hline 94 \text{ (the number I started with)} \end{array}$$

Elizabeth

When I add my answer (36) to the number I took away (58), I should get the number I started with, 94. So I know I am correct.

1. Do you agree with Elizabeth? Show or tell how you decided.

2. Mark solved $93 - 56$. His answer is 49.

He used addition to check.

$$\begin{array}{r} 49 \\ + 56 \text{ (my answer)} \\ \hline 105 \text{ (the number I took away)} \end{array}$$

Mark

Is this the number I started with?

A. Is his answer correct? If Mark’s answer is not correct, use expanded form and solve $93 - 56$.

B. Show how to use addition to check your answer.

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3. **A.** Estimate $151 - 29$. _____

B. Use expanded form to solve $151 - 29$.

C. Show how to use addition to check your answer.

D. Solve $151 - 29$ another way.


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Expanded Form Subtraction

- Richard solved $95 - 49$. He estimated a difference of about 50. Do you agree? Show or tell why or why not.
- Richard put these base-ten pieces down to show 95:
 

To subtract 49, Richard had to make a trade. After trading he had these pieces:



Where did he get the 15 bits?
- Use Richard's base-ten pieces to show $95 - 49$.
 
 $95 - 49 = \square$
- Richard started to use expanded form to solve $95 - 49$. Help him finish his solution.

$$95 = 90 + 5 = 80 + 15$$

$$49 = \underline{\hspace{2cm}}$$
 - Why did Richard write 15?

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Name _____ Date _____

- Do you think your answer to Question 4 is correct? How can your answers in Questions 1 and 3 help you check your calculations in Question 4?
- Show how to use addition to check your answer in Question 4.

| Expanded Form Subtraction Feedback Box | Expectation | Check In | Comments |
|--|-------------|--------------------------|----------|
| Use and apply place value concepts. [Q# 1-4] | E1 | <input type="checkbox"/> | |
| Represent subtraction problems using base-ten pieces. [Q# 2] | E2 | <input type="checkbox"/> | |
| Subtract multidigit numbers using base-ten pieces. [Q# 3] | E3 | <input type="checkbox"/> | |
| Subtract multidigit numbers using the expanded-form method. [Q# 3-4] | E4 | <input type="checkbox"/> | |
| Estimate differences using mental math strategies. [Q# 1] | E5 | <input type="checkbox"/> | |

| | Yes ... | Yes, but ... | No, but ... | No ... |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| MPE3. Check for reasonableness. I look back at my solution to see if my answer makes sense. If it does not, I try again. [Q# 5] | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MPE4. Check my calculations. If I make mistakes, I correct them. [Q# 5-6] | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

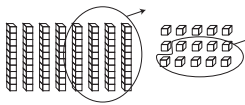
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Teacher Guide

Expanded Form Subtraction (TG pp. 1-2) Questions 1-6

- Yes, 95 is close to 100 cents and 49 is close to 50 cents. $100 - 50$ is 50.
- Richard traded one skinny for 10 bits and added these 10 bits to the 5 bits to get 15 bits.
- 

$$95 - 49 = \boxed{46}$$
- $$95 = 90 + 5 = 80 + 15$$

$$49 = 40 + 9 = 40 + \underline{9}$$

$$40 + 6 = 46$$
 - Richard traded one ten for 10 ones and added them to the 5 ones. He wrote 15 to show $10 + 5 = 15$.
- My estimate in Question 1 helps me know if my answer is reasonable, and solving it another way with base-ten pieces helps me check my work. My answer in Question 3 should match my answer in Question 4. It does, so I am sure my answer is correct.
- $46 + 49 = 95$

Expanded Form Subtraction Practice

(TG pp. 1–2)

Homework

Questions 1– 5

Possible responses given for Question 1.

1. **A.** $94 = 90 + 4$
B. $285 = 200 + 80 + 5$
C. $103 = 100 + 3$
D. $117 = 100 + 10 + 7$
2. True number sentences: A, B, D, and F should be circled.
3. $98 = 90 + 8$
 $\underline{25 = 20 + 5}$
 $70 + 3 = 73$
4. **A.** $72 = 70 + 2 = 60 + 12$
 $\underline{36 = 30 + 6 = 30 + 6}$
 $30 + 6 = 36$
B. yes
C. Mara wrote $60 + 12$ because she traded a ten for 10 ones ($70 - 10 = 60$) and added them to the 2 ones to get 12 ($10 + 2 = 12$).
5. $82 = 80 + 2 = 70 + 12$
 $\underline{47 = 40 + 7 = 40 + 7}$
 $30 + 5 = 35$

Name _____ Date _____

Expanded Form Subtraction Practice

Dear Family Member:

Your child has been using a variety of strategies to solve subtraction problems. One of the paper-and-pencil methods introduced is the expanded-form method. Expanded form shows a number expanded into an addition statement. Seventy-three in expanded form is $70 + 3$. One hundred thirty-five in expanded form is $100 + 30 + 5$. It could also be written as $100 + 20 + 15 = 135$. Thank you.

1. Write the numbers in expanded form. Think about base-ten pieces.
 - A. $94 =$ _____
 - B. $285 =$ _____
 - C. $103 =$ _____
 - D. $117 =$ _____
2. Circle the true number sentences.
 - A. $45 = 40 + 5$
 - B. $70 + 2 = 60 + 12$
 - C. $106 = 10 + 6$
 - D. $200 + 40 + 5 = 100 + 140 + 5$
 - E. $320 = 300 + 2$
 - F. $253 = 200 + 40 + 13$

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3. Chris used expanded form to solve $86 - 54$.

$$\begin{array}{r} 86 = 80 + 6 \\ 54 = 50 + 4 \\ \hline 30 + 2 = 32 \end{array}$$

Solve $98 - 25$ using expanded form.

 $98 =$ _____ $+$ _____
 $25 =$ _____ $+$ _____
4. **A.** Mara started to use expanded form to solve a $72 - 36$. Finish Mara's work.

The plus signs in the problem just show the different ways the numbers are broken up.

$$\begin{array}{r} 72 = 70 + 2 = 60 + 12 \\ 36 = 30 + 6 = 30 + 6 \\ \hline \quad + \quad = \quad \end{array}$$

B. Does $70 + 2 = 60 + 12$? _____
C. Explain why Mara wrote $60 + 12$. _____
5. Use the expanded form method to solve $82 - 47$.
 $82 =$ _____ $+$ _____ $=$ _____ $+$ _____
 $47 =$ _____ $+$ _____ $=$ _____ $+$ _____


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Name _____ Date _____

Solve and Check



Dear Family Member:

Your child has been practicing a variety of subtraction problem solving methods and strategies. The goal is to be able to have many ways to find answers and solve problems in a variety of situations. An example of the expanded-form method for subtraction is shown below.

Expanded form shows a number expanded into an addition statement. Note how the hundreds, tens, and ones are aligned.

Students have also been using addition to check their subtraction. If they add the number they took away back to their answer, they should get the number they started out with.

Expanded Form Method to solve $167 - 129$:

$$167 = 100 + 60 + 7 = 100 + 50 + 17$$

$$129 = 100 + 20 + 9 = 100 + 20 + 9$$

$$30 + 8 = 38$$

Thank you.

1. Circle the true number sentences.

- A. $81 = 70 + 11$
- B. $165 = 150 + 15$
- C. $128 = 100 + 10 + 18$
- D. $205 = 100 + 10 + 15$
- E. $53 = 5 + 30$
- F. $117 = 100 + 17$

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**Solve and Check (TG pp. 1–2)
Homework
Questions (1–3)**

1. True number sentences: A, B, C, and F should be circled.
2. A. $145 = 100 + 40 + 5$

$$\underline{132 = 100 + 30 + 2}$$

$$10 + 3 = 13$$
 B. $95 = 90 + 5 = 80 + 15$

$$\underline{28 = 20 + 8 = 20 + 8}$$

$$60 + 7 = 67$$
 C. $74 = 70 + 4 = 60 + 14$

$$\underline{46 = 40 + 6 = 40 + 6}$$

$$20 + 8 = 28$$
3. $28 + 46 = 74$

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Name _____ Date _____

2. Use expanded form to solve each problem.

A. $145 - 132$

$$145 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$132 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

B. $95 - 28$

$$95 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$28 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

C. $74 - 46$


$$74 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$46 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

3. Emily solved $119 - 57$. Her answer was 62. She used addition to check her subtraction.

62 (my answer)
 $+ 57$ (the number I took away)
 119 (the number I started with)

When I add my answer to the number I took away, I get the number I started with, 119. Now I know my answer is correct!



Emily

Show how to use addition like Emily to check the problem in Question 2C.

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