

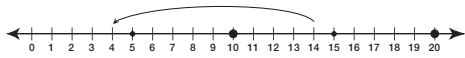
Workshop: Reasoning from Known Facts

Use the following Self-Check questions to check your progress with using strategies to subtract.

Self-Check: Questions 1-4

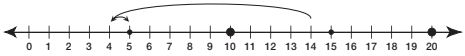
When Rosa uses a number line for subtraction problems, she often thinks of tens.

1. Here is her solution for solving $14 - 10$.



- A. How did she know to stop at 4?
 B. Complete the following number sentence: $14 - \square = 4$

2. Here is Rosa's solution for solving $14 - 9$.



- A. Explain Rosa's steps. What is the answer?
 B. Complete the following number sentence that shows Rosa's strategy. $14 - 9 = 14 - 10 + \square$

3. A. Use Rosa's strategy to solve $14 - 8$. Explain your steps.
 B. Complete the number sentence that shows this strategy.
 $14 - 8 = 14 - 10 + \square$

Copyright © Kendall Hunt Publishing Company

Student Guide

Workshop: Reasoning From Known Facts (SG pp. 47–48)

Questions 1–6

- A. Possible answers: She reasoned from the addition fact $4 + 10 = 14$. She knew that when she subtracts 10, the ones digit stays the same.

B. $14 - \boxed{10} = 4$
- A. Rosa took away 10 and then added 1 because 10 is one more than 9. Five is the answer.

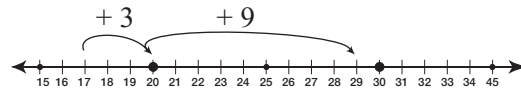
B. $*14 - 9 = 14 - 10 + \boxed{1}$
- A. *Take 10 from 14 to get 4. Add 2 because 8 is equal to $10 - 2$.

B. $*14 - 8 = 14 - 10 + \boxed{2}$
- A. *Move 1 forward to 15.

B. $*24 - 10 + \boxed{1} = 15$
- $7 + \boxed{3 + 5} = 15$, since $5 + 3 = 8$, $15 - 7 = 8$
- 12; I used thinking addition

$$\underbrace{17 + (3 + 9)}_{20} = 29$$

So $29 - 17 = 3 + 9$, or 12



Student Guide - Page 47

4. Rosa started using this strategy to solve $24 - 9$.



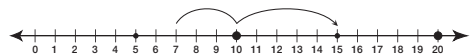
- A. What should she do to finish?
 B. Complete the number sentence that shows this strategy.
 $24 - 9 = 24 - 10 + \square = 15$

Use the *Reasoning From Known Facts Workshop Menu* in the *Student Activity Book* to choose practice problems. Choose problems from the first row of the menu.

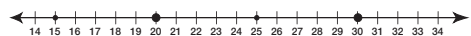
Self-Check: Questions 5-6

When Mark uses a number line for subtraction problems, he often thinks of addition.

5. Mark solved $15 - 7$ on the number line. Write a number sentence that shows Mark's strategy and his solution.



6. Solve $29 - 17$ using Mark's strategy. Show or tell your strategy.



Use the *Reasoning From Known Facts Workshop Menu* in the *Student Activity Book* to choose practice problems. Choose problems from the second row of the menu.

Copyright © Kendall Hunt Publishing Company

Student Guide - Page 48

*Answers and/or discussion are included in the lesson.

Copyright © Kendall Hunt Publishing Company

Student Activity Book

Using Subtraction Strategies (SAB pp. 65–72)
Questions 1–21

1. A.

	Subtract 10	Subtract 9	Subtract 8
Number	Number sentence	Number sentence	Number sentence
16	$16 - 10 = 6$	$16 - 10 + 1 = 7$	$16 - 10 + 2 = 8$
13	$13 - 10 = 3$	$13 - 10 + 1 = 4$	$13 - 10 + 2 = 5$
17	$17 - 10 = 7$	$17 - 10 + 1 = 8$	$17 - 10 + 2 = 9$
15	$15 - 10 = 5$	$15 - 10 + 1 = 6$	$15 - 10 + 2 = 7$

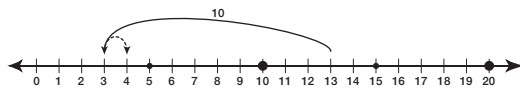
B. The number in the ones place always stays the same.

C. The answer for subtracting 9 is one more than the answer for subtracting 10.

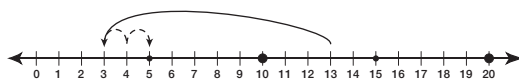
D. The answer for subtracting 8 is two more than the answer for subtracting 10.

E. To subtract 10, the number in the ones place stays the same. To subtract 9, subtract ten first and then add one back because 9 is one less than 10. To subtract 8, subtract ten first and then add two back because 8 is two less than 10.

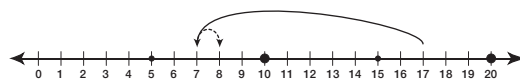
2. Possible strategy: Hop back 10 to 3 and add 1 back $13 - 10 + 1 = 4$



3. 5



4. No; John hopped the wrong way and subtracted one too many. So $17 - 10 + 1 = 8$.



Copyright © Kendall Hunt Publishing Company

Name _____ Date _____

Using Subtraction Strategies

Using Tens

*1. A. Solve each problem below. Write a number sentence that shows your solution.

	Subtract 10	Subtract 9	Subtract 8
Number	Number sentence	Number sentence	Number sentence
16	$16 - 10 = 6$	$16 - 10 + 1 = 7$	$16 - 10 + 2 = 8$
13			
17			
15			

B. Describe a pattern you see for subtracting 10.

C. Look at the answers for subtracting 9. How are they different from the answers for subtracting 10?

D. Look at the answers for subtracting 8. How are they different from the answers for subtracting 10?

E. Describe the pattern you see in the number sentences in each column.

Copyright © Kendall Hunt Publishing Company

Workshop: Reasoning from Known Facts

SAB • Grade 3 • Unit 2 • Lesson 7 65

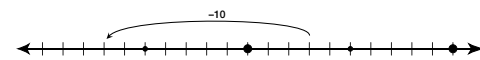
Student Activity Book - Page 65

Name _____ Date _____

*2. Show or tell how you use ten to solve $13 - 9$.



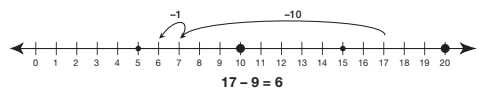
*3. Luis started to show how he used ten and the number line to solve $13 - 8$. Use the number line and boxes to help Luis complete his strategy below.



Two small hops forward and I land on .

$13 - 8 = \span style="border: 1px solid black; padding: 2px;">$

*4. John solved $17 - 9$ this way.



$17 - 9 = 6$

Do you agree with John? _____

If not, show or tell how you would help John.

66 SAB • Grade 3 • Unit 2 • Lesson 7

Workshop: Reasoning from Known Facts

Copyright © Kendall Hunt Publishing Company


Student Activity Book - Page 66

Answer Key • Lesson 7: Workshop: Reasoning from Known Facts

Name _____ Date _____

★●5. Frank solved $14 - 8$ this way:
 "I thought about addition. I know $8 + 6 = 14$. So $14 - 8 = 6$."
 Do you agree with Frank? _____
 If not, show or tell how you would help Frank.

★●6. Show how you can solve $15 - 7$.



Thinking Addition
 ✓ Check-In: Questions 7-9

★●7. Natasha solved $24 - 9$ this way on the 200 Chart.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

$24 - 10 = 14$
 $14 - 1 = 13$
 $24 - 9 = 13$

Do you agree with Natasha? _____
 If not, show or tell how you would help Natasha.

Copyright © Kendall Hunt Publishing Company

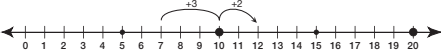
Workshop: Reasoning from Known Facts SAB • Grade 3 • Unit 2 • Lesson 7 67

Student Activity Book - Page 67

Name _____ Date _____


★●8. Solve $24 - 9$ another way.

★●9. Yolanda solved $12 - 7$ this way. Help Yolanda complete her strategy. She started at 7 and counted up on the number line.



make ten
 $7 + \underline{\quad} + \underline{\quad} = 12$
 $7 + \square = 12$
 $12 - 7 = \square$

★●10. Show how you solve $13 - 5$.

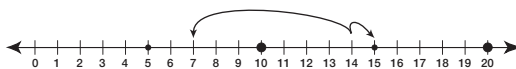


Copyright © Kendall Hunt Publishing Company

68 SAB • Grade 3 • Unit 2 • Lesson 7 Workshop: Reasoning from Known Facts

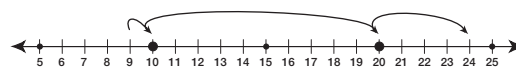
Student Activity Book - Page 68

5. Yes. Another strategy to check might be $8 + 2 + 4 = 14$.
6. Possible strategy: $7 + 7 + 1 = 15$ so, $15 - 7 = 8$



7. No, Natasha moved the wrong way. When 10 is subtracted, it is one too many.
 $24 - 10 + 1 = 15$.

8. Possible strategy:

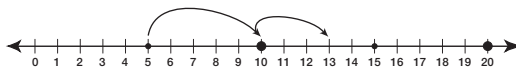


$9 + 1 + 10 + 4 = 24$
 $9 + 15 = 24$, so $24 - 9 = 15$

9. $7 + \underline{3} + \underline{2} = 12$
 $7 + \boxed{5} = 12$
 $12 - 7 = \boxed{5}$

10. Possible strategy: $5 + 5 + 3 = 13$

$5 + 3 = 8$
 $13 - 5 = 8$



11. A.

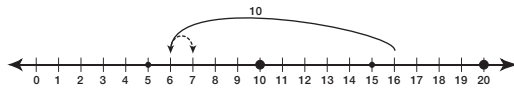
	Subtract 10	Subtract 9
Number	Number sentence	Number sentence
22	$22 - 10 = 12$	$22 - 10 + 1 = 13$
25	$25 - 10 = 15$	$25 - 10 + 1 = 16$
33	$33 - 10 = 23$	$33 - 10 + 1 = 24$
37	$37 - 10 = 27$	$37 - 10 + 1 = 28$

- B. The number in the ones place stays the same.
 C. The answer for subtracting 9 is one more than the answer for subtracting 10.

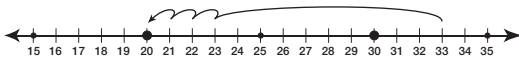
12.

	Subtract 20	Subtract 19
Number	Number sentence	Number sentence
22	$22 - 20 = 2$	$22 - 20 + 1 = 3$
25	$25 - 20 = 5$	$25 - 20 + 1 = 6$
33	$33 - 20 = 13$	$33 - 20 + 1 = 14$
37	$37 - 20 = 17$	$37 - 20 + 1 = 18$

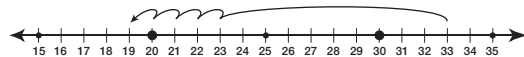
13. $16 - 10 + \boxed{1} = 7$



14. Possible strategy: $33 - 10 - 3 = 20$



15. Possible strategy: $33 - 10 - 4 = 19$



16. No, Richard needed to take away one more not add one more. Possible strategy: $33 - 13 = 20$, so $33 - 13 - 1 = 19$

Copyright © Kendall Hunt Publishing Company

Name _____ Date _____

Using Tens with Larger Numbers

- ★●11. A. Solve each problem in the table. Write a number sentence that shows your strategies.

	Subtract 10	Subtract 9
Number	Number sentence	Number sentence
22	$22 - 10 = 12$	$22 - 10 + 1 = 13$
25		
33		
37		

- B. Describe the pattern you see for subtracting 10.
 C. How are the answers for subtracting 9 different from the answers for subtracting 10?

- ★●12. Solve each problem in the table. Write a number sentence that shows your strategy.

	Subtract 20	Subtract 19
Number	Number sentence	Number sentence
22	$22 - 20 = 2$	$22 - 20 + 1 = 3$
25		
33		
37		

Workshop: Reasoning from Known Facts SAB • Grade 3 • Unit 2 • Lesson 7 69

Student Activity Book - Page 69

Name _____ Date _____

- ★●13. Michael had a collection of 16 marbles. He lost 9 marbles. How many marbles did he have left? Michael started to solve the problem below. Help him complete his strategy. Show Michael's solution strategy on the number line.



Taking away 10 is one more than I need to take away.

$16 - 10 = 6$
 $16 - 10 + \boxed{} = 7$



✓ Check-In: Question 14

- ★●14. Show how you can solve $33 - 13$ on the number line.



- 15. Show how you can solve $33 - 14$ on the number line.



- 16. Richard solved $33 - 14$ this way. "I know that $33 - 13 = 20$, so $33 - 14 = 21$."

Do you agree with Richard? _____
 If not, show or tell how you can help Richard.

70 SAB • Grade 3 • Unit 2 • Lesson 7 Workshop: Reasoning from Known Facts

Student Activity Book - Page 70

Answer Key • Lesson 7: Workshop: Reasoning from Known Facts

Name _____ Date _____

■17. Show how you can solve $30 - 19$ on the number line.

Thinking Addition with Larger Numbers

✓ **Check-In: Question 18**

★18. Carla started to show how she solved $30 - 17$. Help Carla complete her strategy below on the number line. She started at 17 and counted up.

$17 + \underline{\quad} + \underline{\quad} = 30$
 $17 + \boxed{13} = 30$
 $30 - 17 = \boxed{13}$

19. Show or tell how you solve $42 - 16$.

Copyright © Kendall Hunt Publishing Company

Workshop: Reasoning from Known Facts SAB • Grade 3 • Unit 2 • Lesson 7 71

Student Activity Book - Page 71

Name _____ Date _____

■20. Show or tell how you solve $26 - 13$.

■21. Fern started to solve $51 - 12$ on the number line below. Help Fern complete her strategy on the number line.

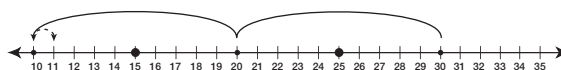
Can you show or tell a different strategy for $51 - 12$?

Copyright © Kendall Hunt Publishing Company

72 SAB • Grade 3 • Unit 2 • Lesson 7 Workshop: Reasoning from Known Facts

Student Activity Book - Page 72

17. $30 - 10 - 10 + 1 = 11$

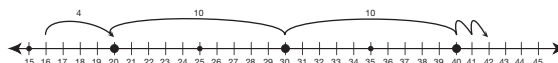


18. $17 + \underline{3} + \underline{10} = 30$;

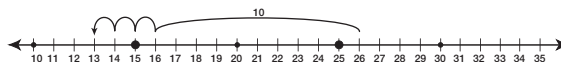
$17 + \boxed{13} = 30$;

$30 - 17 = \boxed{13}$

19. Possible strategy: $16 + 4 + 10 + 10 + 2 = 42$;
 $16 + 26 = 42$



20. Possible strategy: $26 - 10 - 3 = 13$



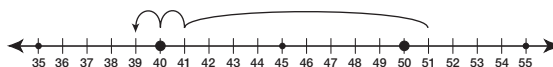
21. Extend Fern's number line hops with one big hop of ten to 52 and one small hop back to 51.

$12 + 10 + 10 + 10 + 10 - 1 = 51$

$12 + 39 = 51$

$51 - 12 = 39$.

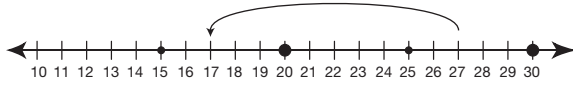
Another strategy: $51 - 10 - 2 = 39$



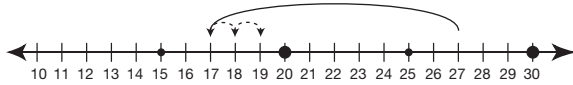
Student Activity Book

Kim's and Suzanne's Marbles (SAB pp. 73–74)
Questions 1–7

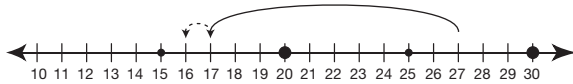
1. $27 - 10 = 17$



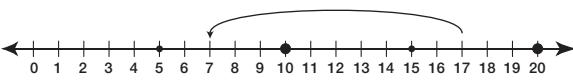
2. $27 - 10 + 2 = 19$



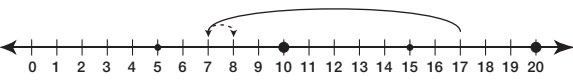
3. $27 - 10 - 1 = 16$



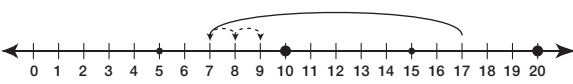
4. $17 - 10 = 7$



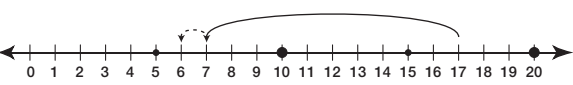
5. $17 - 10 + 1 = 8$



6. $17 - 10 + 2 = 9$



7. $17 - 10 - 1 = 6$



Copyright © Kendall Hunt Publishing Company

Name _____ Date _____

Kim's and Suzanne's Marbles



Choose one group of problems to complete.

Can I Do This?	Working On It! I could use some extra help.	Getting It! I just need some more practice.
Use facts I know to solve subtraction problems.	★ Questions 4–7	● Questions 1–3

Solve each problem using the number line. Write a number sentence that shows your solution strategy.

Suzanne has a jar of 27 marbles. Start each problem with 27 marbles.

- 1. If Suzanne takes 10 marbles out of the jar, how many are left in the jar?



Number sentence: _____

- 2. If she takes 8 marbles out of the jar, how many are left in the jar?



Number sentence: _____

- 3. If she takes 11 marbles out of the jar, how many are left in the jar?



Number sentence: _____

Workshop: Reasoning from Known Facts

SAB • Grade 3 • Unit 2 • Lesson 7 73

Student Activity Book - Page 73

Name _____ Date _____

Solve each problem using the number line. Write a number sentence that shows your solution strategy.

Kim has a jar of 17 marbles. Start each problem with 17 marbles.

- ★4. If Kim takes 10 marbles out of the jar, how many are left in the jar?



Number sentence: _____

- ★5. If she takes 9 marbles out of the jar, how many are left in the jar?



Number sentence: _____

- ★6. If she takes 8 marbles out of the jar, how many are left in the jar?



Number sentence: _____

- ★7. If she takes 11 marbles out of the jar, how many are left in the jar?



Number sentence: _____

74 SAB • Grade 3 • Unit 2 • Lesson 7

Workshop: Reasoning from Known Facts

Student Activity Book - Page 74