

**Appendix B: Fact Masters - Subtraction**

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**[OBJECTIVE]**

The student will develop mastery of subtraction facts 0–18.

**[PREREQUISITE SKILLS]**

knowledge of the numbers 0–18

**[MATERIALS]**

Student pages **S301 – S309**

Transparencies **T925, T927, T928, T929, T930, T931, T937, T938, T945, and T946**

Copies of T943 or T944 on quiz days

Copy of “Minuend/Subtrahend” cards on T939–T942 for teacher (Cut apart for distribution to partners.)

Scissors

Fact Masters Curtain

Colored pencils

Beans (18 per student pair)

Masking tape

Gridded index cards

Hole punch

Paper clips

Phase 2 – **T937, T938, T945, T946, T947–T953, and T954**

**[ESSENTIAL QUESTIONS]**

1. How can subtraction facts be modeled using manipulatives?
2. What techniques can be used to practice subtraction facts?
3. Why is it important to be fluent in subtraction facts?

**[WORDS FOR WORD WALL]**

minuend, subtrahend, difference

**[GROUPING]**

Cooperative Pairs (CP), Whole Group (WG), Individual (I)

\*For Cooperative Pairs (CP) activities, assign the roles of Partner A and Partner B to students. This allows each student to be responsible for designated tasks within the lesson.

**[LEVELS OF TEACHER SUPPORT]**

Modeling (M), Guided Practice (GP), Independent Practice (IP)

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**[MULTIPLE REPRESENTATIONS]**

SOLVE, Concrete Representation, Pictorial Representation, Verbal Description, Graphic Organizer, Graph, Algebraic Formula

**[\*NOTE]**

This lesson has two phases. Phase 1, which is intended to be presented in two days, models the instruction of subtraction facts from the concrete through the pictorial to the abstract. Phase 2 consists of the daily practice techniques and weekly assessment materials for Fact Masters. The procedures and processes of the Fact Masters lesson have been specifically designed to scaffold student learning of subtraction facts. Following the outlined steps is crucial to the success of the program in facilitating student mastery.

**[WARM-UP] (5 minutes – IP, I, WG) S301 (Answers on T924.)**

- Have students turn to S301 in their books to begin the Warm-Up. Students will work with addition facts. Monitor students to see if any of them need help during the Warm-Up. Give students minutes to complete the problems and then spend 2 minutes reviewing the answers as a class. {Pictorial Representation, Verbal Description}

**[HOMEWORK] (5 minutes)**

Take time to go over the homework from the previous night.

**[LESSON] Day 1: (60 minutes – M, GP, IP, WG, CP) Day 2: (60 minutes – M, GP, IP, WG, CP)**-----**Day 1 for Phase 1**-----**SOLVE Problem****(3 minutes – GP, WG) T925, S302 (Answers on T926.)**

Have students turn to S302 in their books, and place T925 on the overhead. The first problem is a SOLVE problem. You are only going to complete the S step with students at this point. Tell students that during the lesson they will learn how to model and practice subtraction facts for mastery. They will use this knowledge to complete this SOLVE problem at the end of the lesson. {SOLVE, Graphic Organizer}

**Items Minus Items – Concrete****(27 minutes – M, GP, WG, IP, CP) T925, T939-T942, S302 (Answers on T926.)**

Separate students into cooperative pairs. Assign the roles of Partner A and Partner B. Make sure that the students in each pair are seated beside each other for this activity so that each has the same perspective. Use the following activity to help students model subtraction facts concretely. {Concrete Representation, Verbal Description}

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**MODELING****Items Minus Items – Concrete**

**Step 1:** Provide 18 beans for each pair of students. Have “Minuend/Subtrahend” cards ready for Step 3.

**Step 2:** Tell pairs that the partner sitting on the left, (Partner A), will be the **minuend**, or “M,” and the partner on the right, (Partner B), will be the “S,” or **subtrahend**. Explain to students that the “M” will represent the number of items (beans) they will start with, or the minuend, and the “S” will represent the number of items (beans) they will remove, or subtract – the subtrahend.

**Step 3:** Demonstrate as students model in their workspace, using beans:

Look at the Minuend/Subtrahend card that shows a minuend of 12 and a subtrahend of 7 (T940). Write this on the overhead or board.

<b>M</b>	<b>S</b>
<b>12</b>	<b>7</b>

Point out that the “M,” or minuend, is 12. Explain that this number tells how many items to start with. Put 12 beans on the overhead. Point out that the “S,” or subtrahend, is 7. Explain that this number tells how many items are removed, or subtracted, from the minuend. Remove 7 beans. Explain that the **difference** is the number of beans left, which is 5.

Pass out two Minuend/Subtrahend cards to each pair. Have students practice two examples of building the minuend with a number of items and then removing a specific number of items. Students can take turns building the “M” and removing the “S.”

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**Step 4:** Have students look at Recording Sheet 1 on S302. Tell students to write an "M" over the first column of squares and an "S" over the second column of squares. Demonstrate on the board, while students write on Recording Sheet 1:

Model the example of building a minuend of 12 with 12 items. Ask, "How many items (beans) are there?" (12) "How many items, or beans, does the subtrahend indicate should be removed, or subtracted, from the minuend?" (7) Remove (subtract) 7 beans from the minuend of 12 beans. Ask, "How many items (beans) are left?" (5) "This is called the difference." Record on T925 (S302).

$$\begin{array}{cc} \text{M} & \text{S} \\ \boxed{12} & \boxed{7} \end{array} \quad \boxed{5}$$

For the remaining five problems on Recording Sheet 1, have students use the two Minuend/Subtrahend cards already distributed, and randomly give each pair three more cards. Have students use the beans to create the number of items in the minuend and record in the M square. Subtract the number of items indicated in the subtrahend, record in the S square, and then write the difference in the third square.

**Practice with Wording of Items Minus Items (10 minutes – M, GP, IP, WG, CP)**  
**T927, S303**

Have students turn to S303 in their books, and place T927 on the overhead. Tell students to write an "M" over the first column and an "S" over the second column. Use the Minuend/Subtrahend cards below as examples. Model with students how to create and write the number of items in the minuend, write the number of items indicated in the subtrahend, and then subtract and write the difference for the first two examples on Recording Sheet 2.

<b>M</b>	<b>S</b>	<b>M</b>	<b>S</b>
<b>12</b>	<b>3</b>	<b>15</b>	<b>9</b>

Example:  $\underline{12}$  item(s) subtract  $\underline{3}$  item(s) =  $\underline{9}$   
 $\underline{15}$  item(s) subtract  $\underline{9}$  item(s) =  $\underline{6}$

Ask student pairs to exchange their Minuend/Subtrahend cards. Have students complete the four remaining problems on Recording Sheet 2. **{Verbal Description}**

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**Practice with the Subtraction Symbol** (10 minutes – M, GP, IP, WG, CP) T928, S304

Have students turn to S304 in their books, and place T928 on the overhead. Have students write an "M" above the first column and an "S" above the second column. Model with students how to build a subtraction fact using a minuend of 12 and a subtrahend of 3, and then fill in the blanks for the first example on Recording Sheet 3.

$$\text{Example: } \underline{12} \text{ item(s)} - \underline{3} \text{ item(s)} = \underline{9}$$

Have students complete the remaining five problems on Recording Sheet 3 on S304. Ask student pairs to exchange their Minuend/Subtrahend cards with a different pair of students. **{Verbal Description}**

**Practice with Subtraction Facts** (10 minutes – M, GP, IP, WG, CP) T929, S305

Have students turn to S305 in their books, and place T929 on the overhead. Have students write an "M" above the first column of squares and an "S" above the second column of squares. Model how to write the numbers for the subtraction fact  $12 - 9 = 3$  in the first row of squares and read the problem as "twelve subtract nine equals a difference of three," or " $12 - 9 = 3$ ."

$$\text{Example: } \boxed{12} - \boxed{9} = \boxed{3}$$

Continue to have students practice, completing Recording Sheet 4. Have student pairs exchange Minuend/Subtrahend cards with a different pair of students, or distribute different cards. **{Verbal Description}**

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## -----Day 2 for Phase 1-----

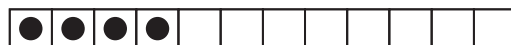
[TEACHER NOTE: THERE IS NO WARM-UP FOR DAY 2. POST THE FACT MASTERS CURTAIN IN THE ROOM TO USE DURING DAY 2. PUT A “-” SYMBOL IN THE TOP LEFT CORNER. ON TWO SETS OF INDEX CARDS, WRITE THE NUMBERS 0-9, ONE PER CARD. LABEL THE TOP HORIZONTAL AXIS USING THE CARDS LABELED 0-9, FROM SMALLEST TO LARGEST (LEFT TO RIGHT), ATTACHING WITH MASKING TAPE. ON THE VERTICAL AXIS, USE CARDS LABELED 0-9, STARTING WITH 0 AT THE TOP AND 9 AT THE BOTTOM, ATTACHING WITH MASKING TAPE. LABEL THE TOP HORIZONTAL AXIS “SUBTRAHEND,” AND THE VERTICAL AXIS “DIFFERENCE.” SEE T938.]

**Subtraction – Pictorial****(53 minutes – M, GP, IP, WG, CP) T930**

Pass out two gridded index cards, colored pencils, and beans to each cooperative pair of students, and place T930 on the overhead. Use the following activity to move students to the pictorial level of understanding subtraction facts. {Concrete Representation, Pictorial Representation, Verbal Description}

**MODELING****Subtraction – Pictorial**

**Step 1:** Model with students how to represent the problem  $12 - 8$  using the beans and the grid on T930 to create a picture. Have pairs use beans and a gridded index card to form the picture. Model the minuend of 12 beans by putting them in a row. Then, subtract 8 of the beans to show a difference of 4.



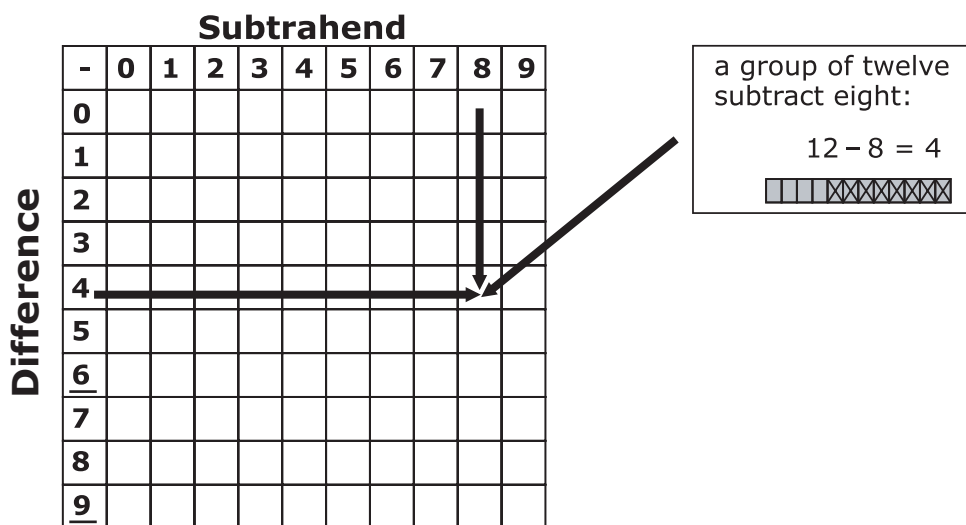
**Step 2:** Model with students how to create a pictorial representation of  $12 - 8$  by shading the grid on T930. Have students shade in 12 squares on the gridded index card, using one color to show the minuend of 12. Then, have students cross out the subtrahend of 8, or 8 squares, to show the difference of 4.



**Step 3:** Model how to write the verbal description and number sentence at the top of the card: “a group of 12 subtract 8;  $12 - 8 = 4$ .”

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**Step 4:** Model how to read the card: “a group of twelve subtract eight, or  $12 - 8 = 4$ ” and how to “publish” the card to the correct space on the Fact Masters Curtain. To publish the card, students will need to find the subtrahend, which is 8 in the problem above, and the difference, which is 4 in the problem above. Demonstrate how to move from the subtrahend of 8 down the column and move from the difference of 4 to the right to plot the correct placement on the curtain. The card should be placed as shown in the example below. Read the fact correctly again after placement on the curtain. Twelve subtract eight (point to the subtrahend) equals four (point to the difference).



**Step 5:** Distribute a Minuend/Subtrahend card to each pair of students and have them build the picture using beans and their gridded index card. Have students shade their gridded index card to show their picture and write the verbal description of the picture at the top of the card. Then, have students come up in pairs to publish their card. Check the picture as they come up to ensure that it is correct, and walk them through the publishing process, making sure they follow the correct steps.

Encourage students to offer positive feedback to their classmates for their work. After all student pairs have published index cards on the curtain, there will be remaining spaces where no one has published. Pass out the remaining M/S cards and more gridded index cards, and have students create the cards to correctly fill the spaces. If all spaces are not filled by the end of the lesson, use the grid as a center activity, supplying gridded index cards, colored pencils, etc.

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When this activity is completed, students have completed the concrete, pictorial, and abstract representations to build the concept of subtraction.

**SOLVE Problem****(5 minutes – GP, WG) T931, S306 (Answers on T932.)**

Have students turn to S306 in their books, and place T931 on the overhead. Remind students that the SOLVE problem is the same one from the beginning of the lesson. Complete the SOLVE problem with your students. Ask them for possible connections from the SOLVE problem to the lesson. (The problem asks students to work with subtraction.) **{SOLVE, Verbal Description, Graphic Organizer, Algebraic Formula}**

**If time permits...****(10 minutes – IP, CP)**

Have students come up with a list of where they will be using subtraction facts this year.

**[CLOSURE] (2 minutes)**

To wrap up the lesson, go back to the essential questions and discuss them with students.

- How can subtraction facts be modeled using manipulatives? (*building pictures, showing how items are subtracted or removed from a group of items to read a fact correctly*)
- What techniques can be used to practice subtraction facts? (*building the facts using manipulatives*)
- Why is it important to be fluent in subtraction facts? (*to help when solving problems, especially word problems that involve subtraction facts*)

**[HOMEWORK]** Assign S307 for homework. (Answers on T933.)

**Note:** Homework facts include facts from 0–18.

**[QUIZ ANSWERS] T934–T936**

1. **A**    2. **B**    3. **B**    4. **B**    5. **B**    6. **D**    7. **C**    8. **A**    9. **A**    10. **B**

The quiz can be used at any time as extra homework or to see how students progress on the mastery of subtraction facts 0 - 18.



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## -----Phase 2-----

**Fact Master Quiz****(Weekly, 6–8 minutes – M, GP, IP, WG)  
T937, T938, T943-T946, S308, S309**

There are 2 quizzes, Form A on T943 and Form B and T944. A quiz is to be given each week, using alternating quizzes. The quizzes should be given on the same day each week at the same time. Make sure the students understand that these quizzes will not be used for a grade, but will be used instead to chart their progress with the subtraction facts. There is a record sheet for students to monitor their own progress on S308, T937.

On quiz day, have students take Quiz A or Quiz B, allotting them exactly two and a half minutes. Tell students to complete the facts they know first and then return to the facts they are unsure of or do not know. Upon completion of the quiz, have students highlight or circle the incorrect items, based on teacher-provided answers. Use Transparency T945 and T946 for the students to correct their quizzes.

Students will then create a Fact Master Clip using index cards and a paper clip. Have students choose 10 or fewer facts from the highlighted facts on their quizzes. These will be their practice facts for the week. Have students write each practice fact on one side of an index card (e.g., " $17 - 9 =$ ") and then turn over the card and write the fact with its difference on the back (e.g., " $17 - 9 = 8$ "). Have students punch a hole in each card and attach them to the paper clip. Tell students that they can use these clips to practice the facts during any free time during the day. The fact paper clips can also be taken home. To practice facts, students should flip through them, saying the fact and immediately providing the difference. If students have difficulty, they should repeat the fact three times, then turn the card over and repeat the fact and the difference written on the back of the card three times. Students can also have another student or adult verbally quiz them on the facts.

Explain to students that when they believe they have mastered a fact, they may remove that fact from the clip and replace it with another fact chosen from the highlighted items on the quiz. Once a student believes that she/he has mastered a fact, she/he may shade in the difference on the subtraction grid on S309, T938. Explain that if the student shades in the difference, that gives the teacher the right to assume the student has mastered the fact and can give the student the fact at any time and expect her/him to know it immediately. **{Verbal Description, Graph, Graphic Organizer}**

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**Choral Drill****(Daily, 2–3 minutes – GP, M, WG) T947–T953**

A fact Master Choral Drill CD or DVD is provided for your classroom. Each track is designed to last about 2–3 minutes. You may use this or choose to use the alternative method described at training. Pages for Choral Drill are found on T947–T953. {Verbal Description}

**Certificate****(0 – 1 minute) T954**

The certificate is for the student who completes a certain percent of mastery on his/her quizzes. For example, the certificates may be given for 90% mastery for two consecutive weeks. The teacher may set the criteria on any level she/he sees fit. When students reach 100% accuracy, it is useful to challenge them to do so in shorter time periods (2 minutes, etc.). We suggest that teachers make two copies of the certificate—one for classroom display and the other to be taken home. Allow students time to color and decorate the certificate.

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Here is the key to **S301**.

## Warm-Up

**Directions:** Complete each problem.**1.** Which picture shows  $2 + 5$ ? **A**



A.  + 



B.  + 



C.  - 



D.  - 



Write the addition fact and sum represented by the models.

**2.**  +  =  
 **$6 + 5 = 11$**

**5.**  +  =  
 **$8 + 5 = 13$**

**3.**  +  =  
 **$4 + 2 = 6$**

**6.**  +  =  
 **$7 + 8 = 15$**

**4.**  +  =  
 **$6 + 4 = 10$**

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## TRANSPARENCY MASTER for S302

**Directions:** Complete the following SOLVE problem with your teacher. You will only complete the S step.

Martina and Inez went to the mall to purchase cups for a party. Martina bought 18 cups and Inez bought 12 cups on sale for \$1.50. How many more cups did Martina buy than Inez?

**S** Underline the question.

This problem is asking me to find \_\_\_\_\_

## Recording Sheet 1

**Directions:** Complete the recording sheet below with your teacher and partner.

[illegible]

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Here is the key to **S302**.

**Directions:** Complete the following SOLVE problem with your teacher. You will only complete the S step.

Martina and Inez went to the mall to purchase cups for a party. Martina bought 18 cups and Inez bought 12 cups on sale for \$1.50. How many more cups did Martina buy than Inez?

**S** Underline the question.

This problem is asking me to find **the difference between the number of cups Martina bought and the number of cups Inez bought.**

Recording Sheet 1

**Directions:** Complete the recording sheet below with your teacher and partner.

<u>M</u>	<u>S</u>	
12	7	5

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## TRANSPARENCY MASTER for S303

**Directions:** Complete the recording sheet below with your teacher and partner.

## Recording Sheet 2

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\_\_\_\_\_ item(s) subtract \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) subtract \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) subtract \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) subtract \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) subtract \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) subtract \_\_\_\_\_ item(s) = \_\_\_\_\_

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**TRANSPARENCY MASTER for S304**

**Directions:** Complete the recording sheet below with your teacher and partner.

**Recording Sheet 3**

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\_\_\_\_\_ item(s) - \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) - \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) - \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) - \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) - \_\_\_\_\_ item(s) = \_\_\_\_\_

\_\_\_\_\_ item(s) - \_\_\_\_\_ item(s) = \_\_\_\_\_

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**TRANSPARENCY MASTER for S305**

**Directions:** Complete the recording sheet below with your teacher and partner.

**Recording Sheet 4**

<div><div></div><div></div></div>	-	<div><div></div><div></div></div>	=	<div><div></div><div></div></div>
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## TRANSPARENCY MASTER

[illegible]

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**TRANSPARENCY MASTER for S306**

**Directions:** Complete the following SOLVE problem with your teacher.

Martina and Inez went to the mall to purchase cups for a party. Martina bought 18 cups and Inez bought 12 cups on sale for \$1.50. How many more cups did Martina buy than Inez?

**S** Underline the question.

This problem is asking me to find \_\_\_\_\_.

**O** Identify the facts.

Eliminate the unnecessary facts.

List the necessary facts.

**L** Choose an operation or operations.

Write in words what your plan of action will be.

**V** Estimate your answer.

Carry out your plan.

**E** Does your answer make sense? (Compare your answer to the question.)

Is your answer reasonable? (Compare your answer to the estimate.)

Is your answer accurate? (Check your work.)

Write your answer in a complete sentence.

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Here is the key to **S306**.

**Directions:** Complete the following SOLVE problem with your teacher.

~~Martina and Inez went to the mall to purchase cups for a party. | Martina bought 18 cups | and Inez bought 12 cups | on sale for \$1.50. |~~ How many more cups did Martina buy than Inez?

**S** Underline the question.

This problem is asking me to find **the difference between the number of cups Martina bought and the number of cups Inez bought.**

**O** Identify the facts.

Eliminate the unnecessary facts.

List the necessary facts. **Martina bought 18 cups, Inez bought 12 cups**

**L** Choose an operation or operations. **Subtraction**

Write in words what your plan of action will be.

**Subtract the number of cups Inez bought from the number of cups Martina bought.**

**V** Estimate your answer. **About 5 cups**

Carry out your plan.  **$18 - 12 = d$**

$$18 - 12 = 6 \text{ cups}$$

**E** Does your answer make sense? (Compare your answer to the question.)

**Yes, because we are looking for the difference between the number of cups Martina bought and the number of cups Inez bought.**

Is your answer reasonable? (Compare your answer to the estimate.) **Yes, because it is close to the estimate of about 5 cups.**

Is your answer accurate? (Check your work.) **Yes.**

Write your answer in a complete sentence. **Martina bought 6 more cups than Inez.**

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Here is the key to **S307**.

## Homework

Name \_\_\_\_\_

Date \_\_\_\_\_

**Directions:** Write a subtraction fact for each of the following pictures.

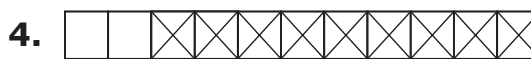
$10 - 6$



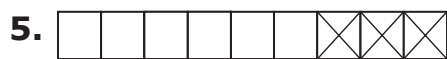
$7 - 3$



$8 - 1$



$11 - 9$



$9 - 3$



$14 - 8$

**Directions:** Draw pictures to show the following subtraction facts.

7.  $10 - 10$



8.  $12 - 6$



9.  $7 - 1$



10.  $13 - 12$



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Name \_\_\_\_\_

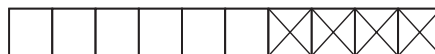
Date \_\_\_\_\_

**Quiz****1.** Which picture shows  $11 - 4$ ?

A.



B.



C.

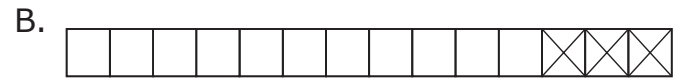
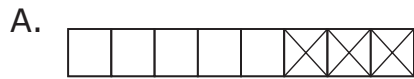


D.

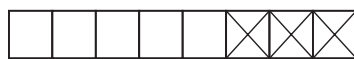
**2.** What subtraction fact does the following picture show?A.  $4 + 14$ B.  $18 - 14$ C.  $14 - 4$ D.  $18 - 4$ **3.** What subtraction fact does the following picture show?A.  $11 - 4$ B.  $15 - 11$ C.  $15 - 4$ D.  $4 + 11$

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4. Which picture shows  $14 - 3$ ?



5. What subtraction fact does the following picture show?



A.  $8 - 5$

B.  $8 - 3$

C.  $5 - 3$

D.  $5 + 3$

6. What subtraction fact does the following picture show?



A.  $15 - 10$

B.  $10 + 5$

C.  $10 - 5$

D.  $15 - 5$

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7. Which picture shows  $7 - 3$ ?

A.



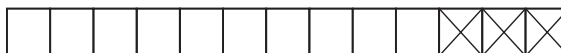
B.



C.



D.



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8. What subtraction fact does the following picture show?



A.  $9 - 4$

B.  $9 - 5$

C.  $10 - 5$

D.  $5 + 4$

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9. What subtraction fact does the following picture show?



A.  $9 - 9$

B.  $9 - 0$

C.  $9 + 9$

D.  $9 + 0$

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10. What subtraction fact does the following picture show?

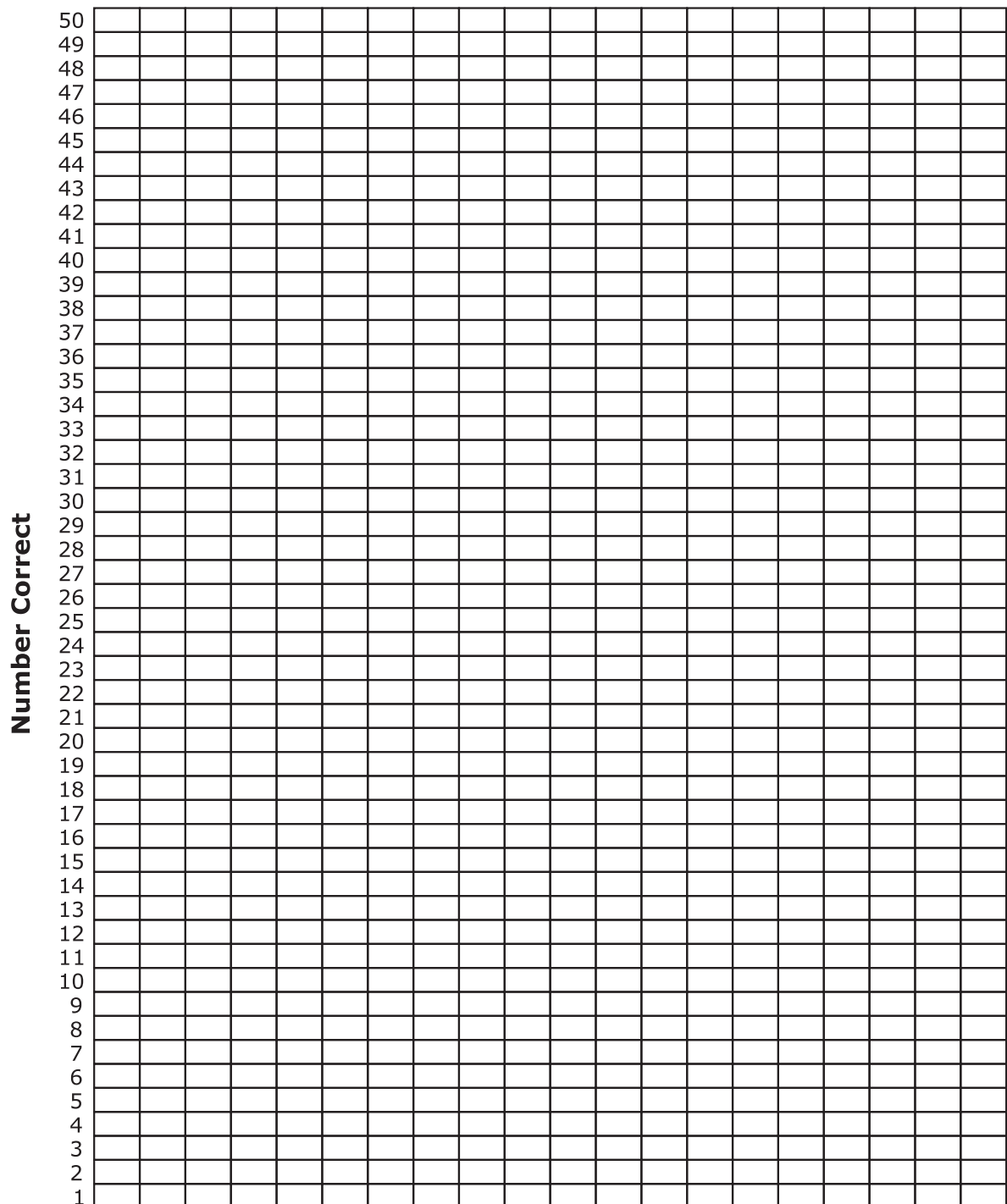


A.  $3 + 3$

B.  $6 - 3$

C.  $9 - 6$

D.  $6 + 3$





Appendix B: Fact Masters - Subtraction

TRANSPARENCY MASTER for S309

**Directions:** Follow your teacher’s directions to complete the grid below.

Grid for Basic Subtraction Facts

		Subtrahend									
Difference	—	0	1	2	3	4	5	<u>6</u>	7	8	<u>9</u>
	0	0	1	2	3	4	5	<u>6</u>	7	8	<u>9</u>
	1	1	2	3	4	5	<u>6</u>	7	8	<u>9</u>	10
	2	2	3	4	5	<u>6</u>	7	8	<u>9</u>	10	11
	3	3	4	5	<u>6</u>	7	8	<u>9</u>	10	11	12
	4	4	5	<u>6</u>	7	8	<u>9</u>	10	11	12	13
	5	5	<u>6</u>	7	8	<u>9</u>	10	11	12	13	14
	<u>6</u>	<u>6</u>	7	8	<u>9</u>	10	11	12	13	14	15
	7	7	8	<u>9</u>	10	11	12	13	14	15	16
	8	8	<u>9</u>	10	11	12	13	14	15	16	17
	<u>9</u>	<u>9</u>	10	11	12	13	14	15	16	17	18

Appendix B: Fact Masters - Subtraction

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<u><b>M</b></u> <u><b>S</b></u>  9      0	<u><b>M</b></u> <u><b>S</b></u>  10      1	<u><b>M</b></u> <u><b>S</b></u>  11      2	<u><b>M</b></u> <u><b>S</b></u>  12      3	<u><b>M</b></u> <u><b>S</b></u>  13      4
<u><b>M</b></u> <u><b>S</b></u>  14      5	<u><b>M</b></u> <u><b>S</b></u>  15      6	<u><b>M</b></u> <u><b>S</b></u>  16      7	<u><b>M</b></u> <u><b>S</b></u>  17      8	<u><b>M</b></u> <u><b>S</b></u>  18      9
<u><b>M</b></u> <u><b>S</b></u>  8      0	<u><b>M</b></u> <u><b>S</b></u>  9      1	<u><b>M</b></u> <u><b>S</b></u>  10      2	<u><b>M</b></u> <u><b>S</b></u>  11      3	<u><b>M</b></u> <u><b>S</b></u>  12      4
<u><b>M</b></u> <u><b>S</b></u>  13      5	<u><b>M</b></u> <u><b>S</b></u>  14      6	<u><b>M</b></u> <u><b>S</b></u>  15      7	<u><b>M</b></u> <u><b>S</b></u>  16      8	<u><b>M</b></u> <u><b>S</b></u>  17      9
<u><b>M</b></u> <u><b>S</b></u>  7      0	<u><b>M</b></u> <u><b>S</b></u>  8      1	<u><b>M</b></u> <u><b>S</b></u>  9      2	<u><b>M</b></u> <u><b>S</b></u>  10      3	<u><b>M</b></u> <u><b>S</b></u>  11      4

Appendix B: Fact Masters - Subtraction

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<u><b>M</b></u> <u><b>S</b></u>  12      5	<u><b>M</b></u> <u><b>S</b></u>  13      6	<u><b>M</b></u> <u><b>S</b></u>  14      7	<u><b>M</b></u> <u><b>S</b></u>  15      8	<u><b>M</b></u> <u><b>S</b></u>  16      9
<u><b>M</b></u> <u><b>S</b></u>  6      0	<u><b>M</b></u> <u><b>S</b></u>  7      1	<u><b>M</b></u> <u><b>S</b></u>  8      2	<u><b>M</b></u> <u><b>S</b></u>  9      3	<u><b>M</b></u> <u><b>S</b></u>  10      4
<u><b>M</b></u> <u><b>S</b></u>  11      5	<u><b>M</b></u> <u><b>S</b></u>  12      6	<u><b>M</b></u> <u><b>S</b></u>  13      7	<u><b>M</b></u> <u><b>S</b></u>  14      8	<u><b>M</b></u> <u><b>S</b></u>  15      9
<u><b>M</b></u> <u><b>S</b></u>  5      0	<u><b>M</b></u> <u><b>S</b></u>  6      1	<u><b>M</b></u> <u><b>S</b></u>  7      2	<u><b>M</b></u> <u><b>S</b></u>  8      3	<u><b>M</b></u> <u><b>S</b></u>  9      4
<u><b>M</b></u> <u><b>S</b></u>  10      5	<u><b>M</b></u> <u><b>S</b></u>  11      6	<u><b>M</b></u> <u><b>S</b></u>  12      7	<u><b>M</b></u> <u><b>S</b></u>  13      8	<u><b>M</b></u> <u><b>S</b></u>  14      9

Appendix B: Fact Masters - Subtraction

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<u><b>M</b></u> <u><b>S</b></u>  4       0	<u><b>M</b></u> <u><b>S</b></u>  5       1	<u><b>M</b></u> <u><b>S</b></u>  6       2	<u><b>M</b></u> <u><b>S</b></u>  7       3	<u><b>M</b></u> <u><b>S</b></u>  8       4
<u><b>M</b></u> <u><b>S</b></u>  9       5	<u><b>M</b></u> <u><b>S</b></u>  10      6	<u><b>M</b></u> <u><b>S</b></u>  11      7	<u><b>M</b></u> <u><b>S</b></u>  12      8	<u><b>M</b></u> <u><b>S</b></u>  13      9
<u><b>M</b></u> <u><b>S</b></u>  3       0	<u><b>M</b></u> <u><b>S</b></u>  4       1	<u><b>M</b></u> <u><b>S</b></u>  5       2	<u><b>M</b></u> <u><b>S</b></u>  6       3	<u><b>M</b></u> <u><b>S</b></u>  7       4
<u><b>M</b></u> <u><b>S</b></u>  8       5	<u><b>M</b></u> <u><b>S</b></u>  9       6	<u><b>M</b></u> <u><b>S</b></u>  10      7	<u><b>M</b></u> <u><b>S</b></u>  11      8	<u><b>M</b></u> <u><b>S</b></u>  12      9
<u><b>M</b></u> <u><b>S</b></u>  2       0	<u><b>M</b></u> <u><b>S</b></u>  3       1	<u><b>M</b></u> <u><b>S</b></u>  4       2	<u><b>M</b></u> <u><b>S</b></u>  5       3	<u><b>M</b></u> <u><b>S</b></u>  6       4

Appendix B: Fact Masters - Subtraction

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<u>M</u>  7	<u>S</u>  5	<u>M</u>  8	<u>S</u>  6	<u>M</u>  9	<u>S</u>  7	<u>M</u>  10	<u>S</u>  8	<u>M</u>  11	<u>S</u>  9
<u>M</u>  1	<u>S</u>  0	<u>M</u>  2	<u>S</u>  1	<u>M</u>  3	<u>S</u>  2	<u>M</u>  4	<u>S</u>  3	<u>M</u>  5	<u>S</u>  4
<u>M</u>  6	<u>S</u>  5	<u>M</u>  7	<u>S</u>  6	<u>M</u>  8	<u>S</u>  7	<u>M</u>  9	<u>S</u>  8	<u>M</u>  10	<u>S</u>  9
<u>M</u>  0	<u>S</u>  0	<u>M</u>  1	<u>S</u>  1	<u>M</u>  2	<u>S</u>  2	<u>M</u>  3	<u>S</u>  3	<u>M</u>  4	<u>S</u>  4
<u>M</u>  5	<u>S</u>  5	<u>M</u>  6	<u>S</u>  6	<u>M</u>  7	<u>S</u>  7	<u>M</u>  8	<u>S</u>  8	<u>M</u>  9	<u>S</u>  9

Appendix B: Fact Masters - Subtraction

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**Subtraction Fact Quiz A**

$1 - 0 = \underline{\quad}$

$13 - 8 = \underline{\quad}$

$10 - 7 = \underline{\quad}$

$10 - 1 = \underline{\quad}$

$10 - 3 = \underline{\quad}$

$5 - 2 = \underline{\quad}$

$2 - 0 = \underline{\quad}$

$18 - 9 = \underline{\quad}$

$15 - 8 = \underline{\quad}$

$8 - 4 = \underline{\quad}$

$3 - 2 = \underline{\quad}$

$14 - 8 = \underline{\quad}$

$9 - 4 = \underline{\quad}$

$4 - 4 = \underline{\quad}$

$4 - 1 = \underline{\quad}$

$15 - 7 = \underline{\quad}$

$7 - 5 = \underline{\quad}$

$14 - 7 = \underline{\quad}$

$4 - 3 = \underline{\quad}$

$8 - 5 = \underline{\quad}$

$7 - 4 = \underline{\quad}$

$8 - 7 = \underline{\quad}$

$12 - 6 = \underline{\quad}$

$2 - 2 = \underline{\quad}$

$6 - 5 = \underline{\quad}$

$6 - 3 = \underline{\quad}$

$8 - 3 = \underline{\quad}$

$11 - 2 = \underline{\quad}$

$8 - 6 = \underline{\quad}$

$1 - 1 = \underline{\quad}$

$9 - 9 = \underline{\quad}$

$14 - 6 = \underline{\quad}$

$10 - 6 = \underline{\quad}$

$9 - 6 = \underline{\quad}$

$16 - 8 = \underline{\quad}$

$11 - 3 = \underline{\quad}$

$5 - 0 = \underline{\quad}$

$7 - 2 = \underline{\quad}$

$7 - 3 = \underline{\quad}$

$10 - 4 = \underline{\quad}$

$11 - 7 = \underline{\quad}$

$17 - 8 = \underline{\quad}$

$9 - 8 = \underline{\quad}$

$17 - 9 = \underline{\quad}$

$9 - 5 = \underline{\quad}$

$14 - 9 = \underline{\quad}$

$7 - 7 = \underline{\quad}$

$5 - 5 = \underline{\quad}$

$7 - 1 = \underline{\quad}$

$13 - 5 = \underline{\quad}$

Appendix B: Fact Masters - Subtraction

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## Subtraction Fact Quiz B

$13 - 9 = \underline{\quad}$

$14 - 5 = \underline{\quad}$

$9 - 0 = \underline{\quad}$

$9 - 3 = \underline{\quad}$

$7 - 6 = \underline{\quad}$

$10 - 2 = \underline{\quad}$

$3 - 0 = \underline{\quad}$

$8 - 8 = \underline{\quad}$

$7 - 0 = \underline{\quad}$

$12 - 5 = \underline{\quad}$

$2 - 1 = \underline{\quad}$

$4 - 0 = \underline{\quad}$

$5 - 4 = \underline{\quad}$

$11 - 5 = \underline{\quad}$

$8 - 0 = \underline{\quad}$

$15 - 6 = \underline{\quad}$

$12 - 4 = \underline{\quad}$

$9 - 2 = \underline{\quad}$

$5 - 1 = \underline{\quad}$

$11 - 6 = \underline{\quad}$

$5 - 3 = \underline{\quad}$

$16 - 9 = \underline{\quad}$

$3 - 3 = \underline{\quad}$

$12 - 8 = \underline{\quad}$

$3 - 1 = \underline{\quad}$

$15 - 9 = \underline{\quad}$

$11 - 9 = \underline{\quad}$

$12 - 7 = \underline{\quad}$

$16 - 7 = \underline{\quad}$

$8 - 2 = \underline{\quad}$

$10 - 9 = \underline{\quad}$

$12 - 3 = \underline{\quad}$

$9 - 7 = \underline{\quad}$

$8 - 1 = \underline{\quad}$

$4 - 2 = \underline{\quad}$

$9 - 1 = \underline{\quad}$

$0 - 0 = \underline{\quad}$

$12 - 9 = \underline{\quad}$

$10 - 5 = \underline{\quad}$

$6 - 1 = \underline{\quad}$

$11 - 8 = \underline{\quad}$

$6 - 6 = \underline{\quad}$

$6 - 4 = \underline{\quad}$

$11 - 7 = \underline{\quad}$

$6 - 2 = \underline{\quad}$

$6 - 0 = \underline{\quad}$

$10 - 8 = \underline{\quad}$

$11 - 4 = \underline{\quad}$

$13 - 4 = \underline{\quad}$

$13 - 6 = \underline{\quad}$

## Appendix B: Fact Masters - Subtraction

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Here is the key to **T943**.**TRANSPARENCY MASTER****Subtraction Fact Quiz A**

$1 - 0 = \mathbf{1}$

$13 - 8 = \mathbf{5}$

$10 - 7 = \mathbf{3}$

$10 - 1 = \mathbf{9}$

$10 - 3 = \mathbf{7}$

$5 - 2 = \mathbf{3}$

$2 - 0 = \mathbf{2}$

$18 - 9 = \mathbf{9}$

$15 - 8 = \mathbf{7}$

$8 - 4 = \mathbf{4}$

$3 - 2 = \mathbf{1}$

$14 - 8 = \mathbf{6}$

$9 - 4 = \mathbf{5}$

$4 - 4 = \mathbf{0}$

$4 - 1 = \mathbf{3}$

$15 - 7 = \mathbf{8}$

$7 - 5 = \mathbf{2}$

$14 - 7 = \mathbf{7}$

$4 - 3 = \mathbf{1}$

$8 - 5 = \mathbf{3}$

$7 - 4 = \mathbf{3}$

$8 - 7 = \mathbf{1}$

$12 - 6 = \mathbf{6}$

$2 - 2 = \mathbf{0}$

$6 - 5 = \mathbf{1}$

$6 - 3 = \mathbf{3}$

$8 - 3 = \mathbf{5}$

$11 - 2 = \mathbf{9}$

$8 - 6 = \mathbf{2}$

$1 - 1 = \mathbf{0}$

$9 - 9 = \mathbf{0}$

$14 - 6 = \mathbf{8}$

$10 - 6 = \mathbf{4}$

$9 - 6 = \mathbf{3}$

$16 - 8 = \mathbf{8}$

$11 - 3 = \mathbf{8}$

$5 - 0 = \mathbf{5}$

$7 - 2 = \mathbf{5}$

$7 - 3 = \mathbf{4}$

$10 - 4 = \mathbf{6}$

$11 - 7 = \mathbf{4}$

$17 - 8 = \mathbf{9}$

$9 - 8 = \mathbf{1}$

$17 - 9 = \mathbf{8}$

$9 - 5 = \mathbf{4}$

$14 - 9 = \mathbf{5}$

$7 - 7 = \mathbf{0}$

$5 - 5 = \mathbf{0}$

$7 - 1 = \mathbf{6}$

$13 - 5 = \mathbf{8}$



Appendix B: Fact Masters - Subtraction

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Here is the key to **T944**.**TRANSPARENCY MASTER****Subtraction Fact Quiz B**

$13 - 9 = 4$

$14 - 5 = 9$

$9 - 0 = 9$

$9 - 3 = 6$

$7 - 6 = 1$

$10 - 2 = 8$

$3 - 0 = 3$

$8 - 8 = 0$

$7 - 0 = 7$

$12 - 5 = 7$

$2 - 1 = 1$

$4 - 0 = 4$

$5 - 4 = 1$

$11 - 5 = 6$

$8 - 0 = 8$

$15 - 6 = 9$

$12 - 4 = 8$

$9 - 2 = 7$

$5 - 1 = 4$

$11 - 6 = 5$

$5 - 3 = 2$

$16 - 9 = 7$

$3 - 3 = 0$

$12 - 8 = 4$

$3 - 1 = 2$

$15 - 9 = 6$

$11 - 9 = 2$

$12 - 7 = 5$

$16 - 7 = 9$

$8 - 2 = 6$

$10 - 9 = 1$

$12 - 3 = 9$

$9 - 7 = 2$

$8 - 1 = 7$

$4 - 2 = 2$

$9 - 1 = 8$

$0 - 0 = 0$

$12 - 9 = 3$

$10 - 5 = 5$

$6 - 1 = 5$

$11 - 8 = 3$

$6 - 6 = 0$

$6 - 4 = 2$

$11 - 7 = 4$

$6 - 2 = 4$

$6 - 0 = 6$

$10 - 8 = 2$

$11 - 4 = 7$

$13 - 4 = 9$

$13 - 6 = 7$

Appendix B: Fact Masters - Subtraction

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**Subtraction: Day 1**

- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| <b>1.</b> $6 - 3 =$ _____   | <b>16.</b> $7 - 4 =$ _____  | <b>31.</b> $6 - 1 =$ _____  |
| <b>2.</b> $8 - 2 =$ _____   | <b>17.</b> $6 - 2 =$ _____  | <b>32.</b> $6 - 4 =$ _____  |
| <b>3.</b> $13 - 6 =$ _____  | <b>18.</b> $13 - 4 =$ _____ | <b>33.</b> $13 - 6 =$ _____ |
| <b>4.</b> $5 - 1 =$ _____   | <b>19.</b> $8 - 1 =$ _____  | <b>34.</b> $4 - 1 =$ _____  |
| <b>5.</b> $3 - 0 =$ _____   | <b>20.</b> $7 - 3 =$ _____  | <b>35.</b> $8 - 3 =$ _____  |
| <b>6.</b> $13 - 4 =$ _____  | <b>21.</b> $13 - 6 =$ _____ | <b>36.</b> $13 - 4 =$ _____ |
| <b>7.</b> $5 - 2 =$ _____   | <b>22.</b> $5 - 3 =$ _____  | <b>37.</b> $8 - 6 =$ _____  |
| <b>8.</b> $7 - 5 =$ _____   | <b>23.</b> $8 - 4 =$ _____  | <b>38.</b> $3 - 1 =$ _____  |
| <b>9.</b> $13 - 6 =$ _____  | <b>24.</b> $13 - 4 =$ _____ | <b>39.</b> $13 - 6 =$ _____ |
| <b>10.</b> $8 - 7 =$ _____  | <b>25.</b> $6 - 0 =$ _____  | <b>40.</b> $7 - 0 =$ _____  |
| <b>11.</b> $7 - 1 =$ _____  | <b>26.</b> $4 - 0 =$ _____  | <b>41.</b> $8 - 5 =$ _____  |
| <b>12.</b> $13 - 4 =$ _____ | <b>27.</b> $13 - 6 =$ _____ | <b>42.</b> $13 - 4 =$ _____ |
| <b>13.</b> $8 - 0 =$ _____  | <b>28.</b> $7 - 2 =$ _____  | <b>43.</b> $2 - 0 =$ _____  |
| <b>14.</b> $5 - 0 =$ _____  | <b>29.</b> $4 - 2 =$ _____  | <b>44.</b> $7 - 6 =$ _____  |
| <b>15.</b> $13 - 6 =$ _____ | <b>30.</b> $13 - 4 =$ _____ | <b>45.</b> $13 - 6 =$ _____ |
- 

**Subtraction: Day 2**

- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| <b>1.</b> $6 - 3 =$ _____   | <b>16.</b> $13 - 4 =$ _____ | <b>31.</b> $13 - 6 =$ _____ |
| <b>2.</b> $8 - 2 =$ _____   | <b>17.</b> $7 - 1 =$ _____  | <b>32.</b> $5 - 3 =$ _____  |
| <b>3.</b> $16 - 7 =$ _____  | <b>18.</b> $16 - 9 =$ _____ | <b>33.</b> $16 - 7 =$ _____ |
| <b>4.</b> $13 - 6 =$ _____  | <b>19.</b> $8 - 0 =$ _____  | <b>34.</b> $8 - 4 =$ _____  |
| <b>5.</b> $5 - 1 =$ _____   | <b>20.</b> $5 - 0 =$ _____  | <b>35.</b> $13 - 4 =$ _____ |
| <b>6.</b> $16 - 9 =$ _____  | <b>21.</b> $16 - 7 =$ _____ | <b>36.</b> $16 - 9 =$ _____ |
| <b>7.</b> $3 - 0 =$ _____   | <b>22.</b> $13 - 6 =$ _____ | <b>37.</b> $6 - 0 =$ _____  |
| <b>8.</b> $13 - 4 =$ _____  | <b>23.</b> $7 - 4 =$ _____  | <b>38.</b> $4 - 0 =$ _____  |
| <b>9.</b> $16 - 7 =$ _____  | <b>24.</b> $16 - 9 =$ _____ | <b>39.</b> $16 - 7 =$ _____ |
| <b>10.</b> $5 - 2 =$ _____  | <b>25.</b> $6 - 2 =$ _____  | <b>40.</b> $13 - 6 =$ _____ |
| <b>11.</b> $13 - 6 =$ _____ | <b>26.</b> $13 - 4 =$ _____ | <b>41.</b> $7 - 2 =$ _____  |
| <b>12.</b> $16 - 9 =$ _____ | <b>27.</b> $16 - 7 =$ _____ | <b>42.</b> $16 - 9 =$ _____ |
| <b>13.</b> $7 - 5 =$ _____  | <b>28.</b> $8 - 1 =$ _____  | <b>43.</b> $4 - 2 =$ _____  |
| <b>14.</b> $8 - 7 =$ _____  | <b>29.</b> $7 - 3 =$ _____  | <b>44.</b> $13 - 4 =$ _____ |
| <b>15.</b> $16 - 7 =$ _____ | <b>30.</b> $16 - 9 =$ _____ | <b>45.</b> $16 - 7 =$ _____ |

Appendix B: Fact Masters - Subtraction

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**Subtraction: Day 3**

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| 1. $6 - 1 =$ _____   | 16. $16 - 9 =$ _____ | 31. $16 - 7 =$ _____ |
| 2. $6 - 4 =$ _____   | 17. $7 - 0 =$ _____  | 32. $8 - 0 =$ _____  |
| 3. $15 - 9 =$ _____  | 18. $15 - 6 =$ _____ | 33. $15 - 9 =$ _____ |
| 4. $16 - 7 =$ _____  | 19. $13 - 4 =$ _____ | 34. $5 - 1 =$ _____  |
| 5. $4 - 1 =$ _____   | 20. $8 - 5 =$ _____  | 35. $16 - 9 =$ _____ |
| 6. $15 - 6 =$ _____  | 21. $15 - 9 =$ _____ | 36. $15 - 6 =$ _____ |
| 7. $13 - 6 =$ _____  | 22. $16 - 7 =$ _____ | 37. $13 - 4 =$ _____ |
| 8. $16 - 9 =$ _____  | 23. $2 - 0 =$ _____  | 38. $3 - 0 =$ _____  |
| 9. $15 - 9 =$ _____  | 24. $15 - 6 =$ _____ | 39. $15 - 9 =$ _____ |
| 10. $8 - 3 =$ _____  | 25. $7 - 6 =$ _____  | 40. $16 - 7 =$ _____ |
| 11. $16 - 7 =$ _____ | 26. $16 - 9 =$ _____ | 41. $5 - 2 =$ _____  |
| 12. $15 - 6 =$ _____ | 27. $15 - 9 =$ _____ | 42. $15 - 6 =$ _____ |
| 13. $8 - 6 =$ _____  | 28. $6 - 3 =$ _____  | 43. $13 - 6 =$ _____ |
| 14. $3 - 1 =$ _____  | 29. $13 - 6 =$ _____ | 44. $16 - 9 =$ _____ |
| 15. $15 - 9 =$ _____ | 30. $15 - 6 =$ _____ | 45. $15 - 9 =$ _____ |
- 

**Subtraction: Day 4**

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| 1. $13 - 6 =$ _____  | 16. $15 - 6 =$ _____ | 31. $15 - 9 =$ _____ |
| 2. $7 - 5 =$ _____   | 17. $5 - 0 =$ _____  | 32. $7 - 3 =$ _____  |
| 3. $15 - 8 =$ _____  | 18. $15 - 7 =$ _____ | 33. $15 - 8 =$ _____ |
| 4. $15 - 9 =$ _____  | 19. $16 - 9 =$ _____ | 34. $5 - 3 =$ _____  |
| 5. $8 - 7 =$ _____   | 20. $7 - 4 =$ _____  | 35. $15 - 6 =$ _____ |
| 6. $15 - 7 =$ _____  | 21. $15 - 8 =$ _____ | 36. $15 - 7 =$ _____ |
| 7. $16 - 7 =$ _____  | 22. $15 - 9 =$ _____ | 37. $16 - 9 =$ _____ |
| 8. $15 - 6 =$ _____  | 23. $6 - 2 =$ _____  | 38. $8 - 4 =$ _____  |
| 9. $15 - 8 =$ _____  | 24. $15 - 7 =$ _____ | 39. $15 - 8 =$ _____ |
| 10. $7 - 1 =$ _____  | 25. $13 - 6 =$ _____ | 40. $15 - 9 =$ _____ |
| 11. $15 - 9 =$ _____ | 26. $15 - 6 =$ _____ | 41. $13 - 4 =$ _____ |
| 12. $15 - 7 =$ _____ | 27. $15 - 8 =$ _____ | 42. $15 - 7 =$ _____ |
| 13. $13 - 4 =$ _____ | 28. $8 - 1 =$ _____  | 43. $16 - 7 =$ _____ |
| 14. $8 - 0 =$ _____  | 29. $16 - 7 =$ _____ | 44. $15 - 6 =$ _____ |
| 15. $15 - 8 =$ _____ | 30. $15 - 7 =$ _____ | 45. $15 - 8 =$ _____ |

Appendix B: Fact Masters - Subtraction

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**Subtraction: Day 5**

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| 1. $16 - 7 =$ _____  | 16. $15 - 7 =$ _____ | 31. $15 - 8 =$ _____ |
| 2. $6 - 0 =$ _____   | 17. $4 - 2 =$ _____  | 32. $4 - 1 =$ _____  |
| 3. $17 - 9 =$ _____  | 18. $17 - 8 =$ _____ | 33. $17 - 9 =$ _____ |
| 4. $15 - 8 =$ _____  | 19. $15 - 6 =$ _____ | 34. $8 - 3 =$ _____  |
| 5. $13 - 6 =$ _____  | 20. $13 - 4 =$ _____ | 35. $15 - 7 =$ _____ |
| 6. $17 - 8 =$ _____  | 21. $17 - 9 =$ _____ | 36. $17 - 8 =$ _____ |
| 7. $15 - 9 =$ _____  | 22. $15 - 8 =$ _____ | 37. $15 - 6 =$ _____ |
| 8. $15 - 7 =$ _____  | 23. $6 - 1 =$ _____  | 38. $13 - 6 =$ _____ |
| 9. $17 - 9 =$ _____  | 24. $17 - 8 =$ _____ | 39. $17 - 9 =$ _____ |
| 10. $4 - 0 =$ _____  | 25. $16 - 9 =$ _____ | 40. $15 - 8 =$ _____ |
| 11. $15 - 8 =$ _____ | 26. $15 - 7 =$ _____ | 41. $16 - 7 =$ _____ |
| 12. $17 - 8 =$ _____ | 27. $17 - 9 =$ _____ | 42. $17 - 8 =$ _____ |
| 13. $16 - 9 =$ _____ | 28. $6 - 4 =$ _____  | 43. $15 - 9 =$ _____ |
| 14. $7 - 2 =$ _____  | 29. $15 - 9 =$ _____ | 44. $15 - 7 =$ _____ |
| 15. $17 - 9 =$ _____ | 30. $17 - 8 =$ _____ | 45. $17 - 9 =$ _____ |
- 

**Subtraction: Day 6**

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| 1. $15 - 9 =$ _____  | 16. $17 - 8 =$ _____ | 31. $17 - 9 =$ _____ |
| 2. $8 - 6 =$ _____   | 17. $7 - 0 =$ _____  | 32. $7 - 6 =$ _____  |
| 3. $14 - 9 =$ _____  | 18. $14 - 5 =$ _____ | 33. $14 - 9 =$ _____ |
| 4. $17 - 9 =$ _____  | 19. $15 - 7 =$ _____ | 34. $13 - 4 =$ _____ |
| 5. $16 - 7 =$ _____  | 20. $16 - 9 =$ _____ | 35. $17 - 8 =$ _____ |
| 6. $14 - 5 =$ _____  | 21. $14 - 9 =$ _____ | 36. $14 - 5 =$ _____ |
| 7. $15 - 8 =$ _____  | 22. $17 - 9 =$ _____ | 37. $15 - 7 =$ _____ |
| 8. $17 - 8 =$ _____  | 23. $8 - 5 =$ _____  | 38. $16 - 7 =$ _____ |
| 9. $14 - 9 =$ _____  | 24. $14 - 5 =$ _____ | 39. $14 - 9 =$ _____ |
| 10. $13 - 6 =$ _____ | 25. $15 - 9 =$ _____ | 40. $17 - 9 =$ _____ |
| 11. $17 - 9 =$ _____ | 26. $17 - 8 =$ _____ | 41. $15 - 6 =$ _____ |
| 12. $14 - 5 =$ _____ | 27. $14 - 9 =$ _____ | 42. $14 - 5 =$ _____ |
| 13. $15 - 6 =$ _____ | 28. $2 - 0 =$ _____  | 43. $15 - 8 =$ _____ |
| 14. $3 - 1 =$ _____  | 29. $15 - 8 =$ _____ | 44. $17 - 8 =$ _____ |
| 15. $14 - 9 =$ _____ | 30. $14 - 5 =$ _____ | 45. $14 - 9 =$ _____ |

Appendix B: Fact Masters - Subtraction

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**Subtraction: Day 7**

- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| <b>1.</b> $15 - 8 =$ _____  | <b>16.</b> $14 - 5 =$ _____ | <b>31.</b> $14 - 9 =$ _____ |
| <b>2.</b> $13 - 6 =$ _____  | <b>17.</b> $8 - 2 =$ _____  | <b>32.</b> $13 - 4 =$ _____ |
| <b>3.</b> $14 - 8 =$ _____  | <b>18.</b> $14 - 6 =$ _____ | <b>33.</b> $14 - 8 =$ _____ |
| <b>4.</b> $14 - 9 =$ _____  | <b>19.</b> $17 - 8 =$ _____ | <b>34.</b> $16 - 9 =$ _____ |
| <b>5.</b> $15 - 9 =$ _____  | <b>20.</b> $15 - 6 =$ _____ | <b>35.</b> $14 - 5 =$ _____ |
| <b>6.</b> $14 - 6 =$ _____  | <b>21.</b> $14 - 8 =$ _____ | <b>36.</b> $14 - 6 =$ _____ |
| <b>7.</b> $17 - 9 =$ _____  | <b>22.</b> $14 - 9 =$ _____ | <b>37.</b> $17 - 8 =$ _____ |
| <b>8.</b> $14 - 5 =$ _____  | <b>23.</b> $5 - 1 =$ _____  | <b>38.</b> $15 - 9 =$ _____ |
| <b>9.</b> $14 - 8 =$ _____  | <b>24.</b> $14 - 6 =$ _____ | <b>39.</b> $14 - 8 =$ _____ |
| <b>10.</b> $16 - 7 =$ _____ | <b>25.</b> $15 - 8 =$ _____ | <b>40.</b> $14 - 9 =$ _____ |
| <b>11.</b> $14 - 9 =$ _____ | <b>26.</b> $14 - 5 =$ _____ | <b>41.</b> $15 - 7 =$ _____ |
| <b>12.</b> $14 - 6 =$ _____ | <b>27.</b> $14 - 8 =$ _____ | <b>42.</b> $14 - 6 =$ _____ |
| <b>13.</b> $15 - 7 =$ _____ | <b>28.</b> $3 - 0 =$ _____  | <b>43.</b> $17 - 9 =$ _____ |
| <b>14.</b> $6 - 3 =$ _____  | <b>29.</b> $17 - 9 =$ _____ | <b>44.</b> $14 - 5 =$ _____ |
| <b>15.</b> $14 - 8 =$ _____ | <b>30.</b> $14 - 6 =$ _____ | <b>45.</b> $14 - 8 =$ _____ |
- 

**Subtraction: Day 8**

- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| <b>1.</b> $17 - 9 =$ _____  | <b>16.</b> $14 - 6 =$ _____ | <b>31.</b> $14 - 8 =$ _____ |
| <b>2.</b> $16 - 7 =$ _____  | <b>17.</b> $5 - 2 =$ _____  | <b>32.</b> $16 - 9 =$ _____ |
| <b>3.</b> $11 - 4 =$ _____  | <b>18.</b> $11 - 7 =$ _____ | <b>33.</b> $11 - 4 =$ _____ |
| <b>4.</b> $14 - 8 =$ _____  | <b>19.</b> $14 - 5 =$ _____ | <b>34.</b> $15 - 6 =$ _____ |
| <b>5.</b> $15 - 8 =$ _____  | <b>20.</b> $15 - 7 =$ _____ | <b>35.</b> $14 - 6 =$ _____ |
| <b>6.</b> $11 - 7 =$ _____  | <b>21.</b> $11 - 4 =$ _____ | <b>36.</b> $11 - 7 =$ _____ |
| <b>7.</b> $14 - 9 =$ _____  | <b>22.</b> $14 - 8 =$ _____ | <b>37.</b> $14 - 5 =$ _____ |
| <b>8.</b> $14 - 6 =$ _____  | <b>23.</b> $7 - 5 =$ _____  | <b>38.</b> $15 - 8 =$ _____ |
| <b>9.</b> $11 - 4 =$ _____  | <b>24.</b> $11 - 7 =$ _____ | <b>39.</b> $11 - 4 =$ _____ |
| <b>10.</b> $15 - 9 =$ _____ | <b>25.</b> $17 - 9 =$ _____ | <b>40.</b> $14 - 8 =$ _____ |
| <b>11.</b> $14 - 8 =$ _____ | <b>26.</b> $14 - 6 =$ _____ | <b>41.</b> $17 - 8 =$ _____ |
| <b>12.</b> $11 - 7 =$ _____ | <b>27.</b> $11 - 4 =$ _____ | <b>42.</b> $11 - 7 =$ _____ |
| <b>13.</b> $17 - 8 =$ _____ | <b>28.</b> $13 - 4 =$ _____ | <b>43.</b> $14 - 9 =$ _____ |
| <b>14.</b> $13 - 6 =$ _____ | <b>29.</b> $14 - 9 =$ _____ | <b>44.</b> $14 - 6 =$ _____ |
| <b>15.</b> $11 - 4 =$ _____ | <b>30.</b> $11 - 7 =$ _____ | <b>45.</b> $11 - 4 =$ _____ |

Appendix B: Fact Masters - Subtraction

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**Subtraction: Day 9**

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| 1. $14 - 9 =$ _____  | 16. $11 - 7 =$ _____ | 31. $11 - 4 =$ _____ |
| 2. $15 - 9 =$ _____  | 17. $13 - 6 =$ _____ | 32. $15 - 6 =$ _____ |
| 3. $12 - 7 =$ _____  | 18. $12 - 9 =$ _____ | 33. $12 - 7 =$ _____ |
| 4. $11 - 4 =$ _____  | 19. $14 - 6 =$ _____ | 34. $15 - 7 =$ _____ |
| 5. $17 - 9 =$ _____  | 20. $17 - 8 =$ _____ | 35. $11 - 7 =$ _____ |
| 6. $12 - 9 =$ _____  | 21. $12 - 7 =$ _____ | 36. $12 - 9 =$ _____ |
| 7. $14 - 8 =$ _____  | 22. $11 - 4 =$ _____ | 37. $14 - 6 =$ _____ |
| 8. $11 - 7 =$ _____  | 23. $13 - 4 =$ _____ | 38. $17 - 9 =$ _____ |
| 9. $12 - 7 =$ _____  | 24. $12 - 9 =$ _____ | 39. $12 - 7 =$ _____ |
| 10. $15 - 8 =$ _____ | 25. $14 - 9 =$ _____ | 40. $11 - 4 =$ _____ |
| 11. $11 - 4 =$ _____ | 26. $11 - 7 =$ _____ | 41. $14 - 5 =$ _____ |
| 12. $12 - 9 =$ _____ | 27. $12 - 7 =$ _____ | 42. $12 - 9 =$ _____ |
| 13. $14 - 5 =$ _____ | 28. $16 - 9 =$ _____ | 43. $14 - 8 =$ _____ |
| 14. $16 - 7 =$ _____ | 29. $14 - 8 =$ _____ | 44. $11 - 7 =$ _____ |
| 15. $12 - 7 =$ _____ | 30. $12 - 9 =$ _____ | 45. $12 - 7 =$ _____ |
- 

**Subtraction: Day 10**

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| 1. $14 - 8 =$ _____  | 16. $12 - 9 =$ _____ | 31. $12 - 7 =$ _____ |
| 2. $15 - 8 =$ _____  | 17. $16 - 7 =$ _____ | 32. $15 - 7 =$ _____ |
| 3. $11 - 9 =$ _____  | 18. $11 - 8 =$ _____ | 33. $11 - 9 =$ _____ |
| 4. $12 - 7 =$ _____  | 19. $11 - 7 =$ _____ | 34. $17 - 8 =$ _____ |
| 5. $14 - 9 =$ _____  | 20. $14 - 5 =$ _____ | 35. $12 - 9 =$ _____ |
| 6. $11 - 8 =$ _____  | 21. $11 - 9 =$ _____ | 36. $11 - 8 =$ _____ |
| 7. $11 - 4 =$ _____  | 22. $12 - 7 =$ _____ | 37. $11 - 7 =$ _____ |
| 8. $12 - 9 =$ _____  | 23. $13 - 6 =$ _____ | 38. $14 - 9 =$ _____ |
| 9. $11 - 9 =$ _____  | 24. $11 - 8 =$ _____ | 39. $11 - 9 =$ _____ |
| 10. $17 - 9 =$ _____ | 25. $14 - 8 =$ _____ | 40. $12 - 7 =$ _____ |
| 11. $12 - 7 =$ _____ | 26. $12 - 9 =$ _____ | 41. $14 - 6 =$ _____ |
| 12. $11 - 8 =$ _____ | 27. $11 - 9 =$ _____ | 42. $11 - 8 =$ _____ |
| 13. $14 - 6 =$ _____ | 28. $15 - 6 =$ _____ | 43. $11 - 4 =$ _____ |
| 14. $15 - 9 =$ _____ | 29. $11 - 4 =$ _____ | 44. $12 - 9 =$ _____ |
| 15. $11 - 9 =$ _____ | 30. $11 - 8 =$ _____ | 45. $11 - 9 =$ _____ |

Appendix B: Fact Masters - Subtraction

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**Subtraction: Day 11**

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| 1. $11 - 4 =$ _____  | 16. $11 - 8 =$ _____ | 31. $11 - 9 =$ _____ |
| 2. $17 - 9 =$ _____  | 17. $13 - 6 =$ _____ | 32. $17 - 8 =$ _____ |
| 3. $13 - 5 =$ _____  | 18. $13 - 8 =$ _____ | 33. $13 - 5 =$ _____ |
| 4. $11 - 9 =$ _____  | 19. $12 - 9 =$ _____ | 34. $14 - 5 =$ _____ |
| 5. $14 - 8 =$ _____  | 20. $14 - 6 =$ _____ | 35. $11 - 8 =$ _____ |
| 6. $13 - 8 =$ _____  | 21. $13 - 5 =$ _____ | 36. $13 - 8 =$ _____ |
| 7. $12 - 7 =$ _____  | 22. $11 - 9 =$ _____ | 37. $12 - 9 =$ _____ |
| 8. $11 - 8 =$ _____  | 23. $16 - 7 =$ _____ | 38. $14 - 8 =$ _____ |
| 9. $13 - 5 =$ _____  | 24. $13 - 8 =$ _____ | 39. $13 - 5 =$ _____ |
| 10. $14 - 9 =$ _____ | 25. $11 - 4 =$ _____ | 40. $11 - 9 =$ _____ |
| 11. $11 - 9 =$ _____ | 26. $11 - 8 =$ _____ | 41. $11 - 7 =$ _____ |
| 12. $13 - 8 =$ _____ | 27. $13 - 5 =$ _____ | 42. $13 - 8 =$ _____ |
| 13. $11 - 7 =$ _____ | 28. $15 - 9 =$ _____ | 43. $12 - 7 =$ _____ |
| 14. $15 - 8 =$ _____ | 29. $12 - 7 =$ _____ | 44. $11 - 8 =$ _____ |
| 15. $13 - 5 =$ _____ | 30. $13 - 8 =$ _____ | 45. $13 - 5 =$ _____ |
- 

**Subtraction: Day 12**

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| 1. $12 - 7 =$ _____  | 16. $13 - 8 =$ _____ | 31. $13 - 5 =$ _____ |
| 2. $14 - 9 =$ _____  | 17. $13 - 6 =$ _____ | 32. $17 - 9 =$ _____ |
| 3. $16 - 8 =$ _____  | 18. $18 - 9 =$ _____ | 33. $16 - 8 =$ _____ |
| 4. $13 - 5 =$ _____  | 19. $11 - 8 =$ _____ | 34. $14 - 8 =$ _____ |
| 5. $11 - 4 =$ _____  | 20. $11 - 7 =$ _____ | 35. $13 - 8 =$ _____ |
| 6. $18 - 9 =$ _____  | 21. $16 - 8 =$ _____ | 36. $18 - 9 =$ _____ |
| 7. $11 - 9 =$ _____  | 22. $13 - 5 =$ _____ | 37. $11 - 8 =$ _____ |
| 8. $13 - 8 =$ _____  | 23. $14 - 6 =$ _____ | 38. $11 - 4 =$ _____ |
| 9. $16 - 8 =$ _____  | 24. $18 - 9 =$ _____ | 39. $16 - 8 =$ _____ |
| 10. $14 - 8 =$ _____ | 25. $12 - 7 =$ _____ | 40. $13 - 5 =$ _____ |
| 11. $13 - 5 =$ _____ | 26. $13 - 8 =$ _____ | 41. $12 - 9 =$ _____ |
| 12. $18 - 9 =$ _____ | 27. $16 - 8 =$ _____ | 42. $18 - 9 =$ _____ |
| 13. $12 - 9 =$ _____ | 28. $15 - 9 =$ _____ | 43. $11 - 9 =$ _____ |
| 14. $15 - 8 =$ _____ | 29. $11 - 9 =$ _____ | 44. $13 - 8 =$ _____ |
| 15. $16 - 8 =$ _____ | 30. $18 - 9 =$ _____ | 45. $16 - 8 =$ _____ |

Appendix B: Fact Masters - Subtraction

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**Subtraction: Day 13**

- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| <b>1.</b> $11 - 9 =$ _____  | <b>16.</b> $18 - 9 =$ _____ | <b>31.</b> $16 - 8 =$ _____ |
| <b>2.</b> $14 - 9 =$ _____  | <b>17.</b> $13 - 6 =$ _____ | <b>32.</b> $17 - 9 =$ _____ |
| <b>3.</b> $12 - 8 =$ _____  | <b>18.</b> $12 - 4 =$ _____ | <b>33.</b> $12 - 8 =$ _____ |
| <b>4.</b> $16 - 8 =$ _____  | <b>19.</b> $13 - 6 =$ _____ | <b>34.</b> $14 - 8 =$ _____ |
| <b>5.</b> $12 - 7 =$ _____  | <b>20.</b> $12 - 9 =$ _____ | <b>35.</b> $18 - 9 =$ _____ |
| <b>6.</b> $12 - 4 =$ _____  | <b>21.</b> $12 - 8 =$ _____ | <b>36.</b> $12 - 4 =$ _____ |
| <b>7.</b> $13 - 5 =$ _____  | <b>22.</b> $16 - 8 =$ _____ | <b>37.</b> $13 - 8 =$ _____ |
| <b>8.</b> $18 - 9 =$ _____  | <b>23.</b> $16 - 7 =$ _____ | <b>38.</b> $12 - 7 =$ _____ |
| <b>9.</b> $12 - 8 =$ _____  | <b>24.</b> $12 - 4 =$ _____ | <b>39.</b> $12 - 8 =$ _____ |
| <b>10.</b> $11 - 4 =$ _____ | <b>25.</b> $11 - 9 =$ _____ | <b>40.</b> $16 - 8 =$ _____ |
| <b>11.</b> $16 - 8 =$ _____ | <b>26.</b> $18 - 9 =$ _____ | <b>41.</b> $11 - 8 =$ _____ |
| <b>12.</b> $12 - 4 =$ _____ | <b>27.</b> $12 - 8 =$ _____ | <b>42.</b> $12 - 4 =$ _____ |
| <b>13.</b> $11 - 8 =$ _____ | <b>28.</b> $15 - 9 =$ _____ | <b>43.</b> $13 - 5 =$ _____ |
| <b>14.</b> $15 - 8 =$ _____ | <b>29.</b> $13 - 5 =$ _____ | <b>44.</b> $18 - 9 =$ _____ |
| <b>15.</b> $12 - 8 =$ _____ | <b>30.</b> $12 - 4 =$ _____ | <b>45.</b> $12 - 8 =$ _____ |
-



Appendix B: Fact Masters - Subtraction

