

# LESSON 6

Read about this PROVISIONAL EDITION in the front matter to this book.  
Check the NFB website periodically for updates to this lesson.

- [SIGNS OF OPERATION, cont.](#)
- [SIGNS OF COMPARISON, cont.](#)

*FORMAT*

[Simple Tables](#)

*Instructions*

This lesson introduces many more symbols that you will come across in all areas of mathematics. Look carefully at the print symbol as many look similar to each other. Understand the context – some symbols are used as signs of operation as well as signs of comparison. The function of the symbol must be determined in order to apply proper spacing rules.

## *SIGNS OF OPERATION, cont.*

**6.1 Review of Signs of Operation:** In braille, no space is left before or after a sign of operation unless it is preceded or followed by a sign of comparison, an ellipsis, a dash, an unrelated word, or an abbreviation. Signs of operation are mathematical symbols and are punctuated accordingly. The following signs of operation have already been introduced.

⠠⠠⠠⠠	+	Plus
⠠⠠⠠⠠	–	Minus
⠠⠠⠠⠠⠠⠠	×	Multiplication Cross
⠠⠠⠠⠠	•	Multiplication Dot
⠠⠠⠠⠠⠠⠠	÷	Division

**6.2 Signs of Operation Using Plus and Minus:** The following signs are a combination of the plus and minus signs, written either side-by-side or one atop another.

<b>"Plus or Minus"</b>	±	⠠⠠⠠⠠⠠⠠
<b>"Minus or Plus"</b>	∓	⠠⠠⠠⠠⠠⠠
<b>Plus followed by Minus</b>	+ –	⠠⠠⠠⠠⠠⠠⠠⠠
<b>Minus followed by Plus</b>	– +	⠠⠠⠠⠠⠠⠠⠠⠠
<b>Minus followed by Minus</b>	– –	⠠⠠⠠⠠⠠⠠⠠⠠

Note that in the first two symbols, the upper sign is brailled first, followed immediately by the lower sign.

$$\gg 38 \pm 7 \quad \begin{matrix} \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \end{matrix}$$

$$\gg 38 \mp 7 \quad \begin{matrix} \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \end{matrix}$$

In the side-by-side symbols, a multipurpose indicator (dot 5) is inserted between the unspaced symbols. The multipurpose indicator indicates that the symbols are printed horizontally, not vertically.

<b>Multipurpose Indicator</b>	$\cdot\cdot$
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$$\gg 10 + -5 \quad \begin{matrix} \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \end{matrix}$$

$$\gg 10 - +5 \quad \begin{matrix} \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \end{matrix}$$

$$\gg 10 - -5 \quad \begin{matrix} \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot & \cdot\cdot \end{matrix}$$

Review the rules in **1.8.2** regarding the use/nonuse of the numeric indicator with positive and negative numbers.

*Example 6.2-1*  $\pm 5$  means +5 and -5.

$$\begin{matrix} \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot \end{matrix}$$

*Example 6.2-2* Can  $3 \pm 1 = +4$  and  $+2$ ?

$$\begin{matrix} \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot \end{matrix}$$

*Example 6.2-3* Compare:  $20 + -3$ ;  $20 - -3$ ;  $-20 - -3$ ;  $-20 + 3$ .

$$\begin{matrix} \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot \\ \cdot\cdot & \cdot\cdot \end{matrix}$$

CHALLENGE: If you come across the notation for "plus positive 3", as in  $-20 ++3$ , how would you braille ++? Using the logic shown in the other side-by-side operation signs,  $\cdot\cdot \cdot\cdot \cdot\cdot$  is the correct transcription. Because this symbol is not shown in the Nemeth Code, a transcriber's note explaining its print form ("plus followed by plus") would be required.







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*Instructions:* Review the spacing rules for operation signs before transcribing the practice. Transcribe this entire list in Nemeth Code.

### PRACTICE 6A

$$4 \pm 1, 400 \pm 10, 6 \mp 1, 600 \mp 10$$

$$\mu \pm 1.645 \sigma$$

$$50 - +5 = 45$$

$$50 + -5 = ?$$

$$-3 - -3 = 0$$

$$A\&B = B\&A$$

$$a * (b * c) = (a * b) * c$$

$$(1 + 2) * (3 + 4) = 3 * 7$$

$$\#A = \#B$$

$$.5\#.7 = .7\#.5$$

$$[(p \dagger p) \dagger (q \dagger q)]$$

$$s \uparrow t = u \uparrow v$$

$$1 \uparrow 3 = 4 \uparrow 3$$

$$m \S y = y \S m = y$$

$$5 \S 6 = 6 \S 5 = 6$$

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## 6.4 Signs of Operation Unique to Mathematics:

<b>Slash</b>	/	⠠⠨
<b>Back Slash</b>	\	⠠⠨
<b>Dot</b>	•	⠠⠠
<b>Hollow Dot</b>	◦	⠠⠠
<b>Intersection ("cap")</b>	∩	⠠⠠
<b>Logical Product</b>	∧	⠠⠠
<b>Logical Sum</b>	∨	⠠⠠
<b>Minus with Dot Over</b>	÷	⠠⠠
<b>Tilde, Simple</b>	~	⠠⠠
<b>Tilde, Extended</b>	≈	⠠⠠⠠
<b>Union ("cup")</b>	∪	⠠⠠
<b>Vertical Bar</b>		⠠
<b>Vertical Bar Negated</b>	∕	⠠⠠

Examples of each symbol are shown below. Note that, as with the other operation signs you have learned, these signs are unspaced from related mathematical terms regardless of the spacing shown in print.

**6.4.1 Slash:** The "forward slash" slants from lower-left to upper-right. When the slash means "divided by" (or "over"), as in a linear fraction, the slash is a mathematical symbol of operation and a switch to Nemeth Code is required. (In a linear fraction, the numbers are printed in normal size and each number rests on the baseline of writing, in line with the text.) No space is left between the slash and any numeral to which it applies.

⠠⠠ / ⠠⠠

*Example 6.4-1* 3/8 of the class are girls.

⠠⠠⠠ / ⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠

*In Nemeth Code, the numeric indicator is not needed for a numeral immediately following a slash.*











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*Instructions:* Practice brailleing these operation signs in table format. See instructions in [6.5](#), above.

**PRACTICE 6B**

<u>Name</u>	<u>Symbol</u>
Dot	•
Vertical Bar	
Negated Vertical Bar	⌈
Logical Product	∧
Simple Tilde	~
Logical Sum	∨
Extended Tilde	≈
Backslash	\
Slash	/
Hollow Dot	◦
Intersection	∩
Union	∪
Minus with Dot Over	÷

## *SIGNS OF COMPARISON, cont.*

**6.6 Review of Signs of Comparison:** A space must be left before and after a sign of comparison. However, no space is left between a sign of comparison and a sign of grouping, a braille indicator, or a punctuation mark which is related to it. The following signs of comparison have already been introduced.

⠠⠨⠠	=	Equals	⠠⠨⠠⠠	∴	Proportion
⠠⠨⠠	>	Greater Than	⠠⠨⠠	⠠⠨⠠	Ratio
⠠⠨⠠	<	Less Than			

### 6.7 More Signs of Comparison:

<b>Greater Than with Curved Sides</b>	⤿	⠠⠨⠠⠠
<b>Less Than with Curved Sides</b>	⤿	⠠⠨⠠⠠
<b>Arc, Concave Upward</b>	)	⠠⠨⠠
<b>Arc, Concave Downward</b>	(	⠠⠨⠠
<b>Equivalence</b>	⌊	⠠⠨⠠⠠⠠
<b>Identity</b>	≡	⠠⠨⠠
<b>Inclusion</b>	⊂	⠠⠨⠠⠠
<b>Membership</b>	ε or ℰ or ∈	⠠⠨⠠
<b>Parallel to</b>		⠠⠨⠠
<b>Perpendicular to</b>	⊥	⠠⠨⠠
<b>Relation</b>	R	⠠⠨⠠
<b>Reverse Inclusion</b>	⊃	⠠⠨⠠⠠
<b>Reverse Membership</b>	∋	⠠⠨⠠
<b>Tilde, Simple</b>	~	⠠⠨⠠
<b>Tilde, Extended</b>	~	⠠⠨⠠⠠
<b>Variation</b>	∝	⠠⠨⠠
<b>Vertical Bar</b>		⠠⠨⠠







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*Instructions:* Review the spacing rules for comparison signs before transcribing the practice. Assume all tildes and vertical bars are comparison signs in these examples.

### PRACTICE 6C

$$A \ni x$$

$$\{x \in A \mid x \sim a\}$$

$$j \approx k$$

$$r \propto s$$

$$f(x) \equiv D(x) \cdot q(x)$$

$$-12 < -4 < 0$$

$$.9 > .5$$

$$m \smile l$$

$$l \frown m$$

$$(A \cup E) \subset (F \cup B)$$

$$Q \supset Z$$

$$PQR \sim P'Q'R'$$

$$AB \parallel MN$$

$$CD \perp OP$$

$$EF \parallel GH \perp QR$$

$$\{m \mid 3(m - 6) = -9\}$$

$$\{x : x \text{ has the property } T\}$$

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**6.8 Signs of Comparison Compounded Vertically:** When two or more simple signs of comparison are arranged one under the other, the combination becomes a single comparison sign compounded vertically. The symbol for the uppermost sign is written first, immediately followed by and unspaced from the symbol for the lower sign. Comparison signs compounded vertically not shown in the lists below are transcribed in accordance with this principle.

**6.8.1 Greater Than Or Equal To:** The "equal to" sign may be printed as an equals sign or as a single line – either a horizontal bar or an oblique line. Note that both the horizontal bar and the oblique line are represented by the same braille symbol, ⠨.

<b>Bar Over Greater Than</b>	$\bar{>}$ or $\bar{>}$	⠨ ⠨ ⠨
<b>Equals Sign Over Greater Than</b>	$\equiv$ or $\equiv$	⠨ ⠨ ⠨ ⠨
<b>Greater Than with Bar Under</b>	$\geq$ or $\geq$	⠨ ⠨ ⠨
<b>Greater Than with Equals Sign Under</b>	$\geq$ or $\geq$	⠨ ⠨ ⠨ ⠨

$\gg a \bar{>} b$       ⠨ ⠨ ⠨ ⠨ ⠨  
 $\gg a \equiv b$       ⠨ ⠨ ⠨ ⠨ ⠨ ⠨  
 $\gg x \geq y$       ⠨ ⠨ ⠨ ⠨  
 $\gg |x| \geq 0$       ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨

**6.8.2 Inclusion ("is a subset of")**

<b>Bar Over Inclusion</b>	$\subsetneq$	⠨ ⠨ ⠨ ⠨
<b>Equals Sign Over Inclusion</b>	$\subsetneq$	⠨ ⠨ ⠨ ⠨ ⠨
<b>Inclusion with Bar Under</b>	$\supseteq$	⠨ ⠨ ⠨ ⠨
<b>Inclusion with Equals Sign Under</b>	$\supseteq$	⠨ ⠨ ⠨ ⠨ ⠨

$\gg C \subsetneq B'$       ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨  
 $\gg C \equiv B'$       ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨  
 $\gg (D \cap E) \supseteq (E \times E)$       ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨  
 $\gg (D \cap E) \supseteq (E \times E)$       ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨ ⠨

**6.8.3 Intersection:** The intersection sign is a sign of comparison when modified by a bar or equals sign below it. It is also called a "cap".

<b>Intersection with Bar Under</b>	$\cap$	⠠⠨⠠⠨⠠⠨
<b>Intersection with Equals Sign Under</b>	$\sqcap$	⠠⠨⠠⠨⠠⠨⠠⠨

➤  $X \cap Y$       ⠠⠭⠠⠨⠠⠭      ⠠⠭⠠⠨⠠⠭⠠⠨

➤  $X \sqcap Y$       ⠠⠭⠠⠨⠠⠭      ⠠⠭⠠⠨⠠⠭⠠⠨⠠⠭⠠⠨

An unmodified intersection sign is a sign of operation. See [6.4.5](#).

**6.8.4 Less Than Or Equal To**

<b>Bar Over Less Than</b>	$\lessgtr$ or $\lessless$	⠠⠨⠠⠨⠠⠨
<b>Equals Sign Over Less Than</b>	$\lesseqgtr$ or $\lesseqless$	⠠⠨⠠⠨⠠⠨⠠⠨
<b>Less Than with Bar Under</b>	$\lessgtr$ or $\lessless$	⠠⠨⠠⠨⠠⠨
<b>Less Than with Equals Sign Under</b>	$\lesseqgtr$ or $\lesseqless$	⠠⠨⠠⠨⠠⠨⠠⠨

➤  $v - 1 \lessgtr 5$       ⠠⠧⠠⠤⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨

➤  $v - 1 \lesseqgtr 5$       ⠠⠧⠠⠤⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨

➤  $6 \lessgtr x \lessgtr 9$       ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨

➤  $6 \lesseqgtr x \lesseqgtr 9$       ⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨

**6.8.5 Logical Product:** The logical product sign is a sign of comparison meaning "meet" when modified by a bar or equals sign above or below it.

<b>Bar Over Logical Product</b>	$\bar{\wedge}$	⠠⠠⠠⠠⠠⠠
<b>Bar Over and Bar Under Logical Product</b>	$\bar{\underline{\wedge}}$	⠠⠠⠠⠠⠠⠠⠠⠠
<b>Bar Over and Equals Sign Under Logical Product</b>	$\bar{\underline{=}}\wedge$	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
<b>Logical Product with Bar Under</b>	$\underline{\wedge}$	⠠⠠⠠⠠⠠⠠
<b>Equals Sign Over Logical Product</b>	$\overline{\wedge}$	⠠⠠⠠⠠⠠⠠
<b>Equals Sign Over and Bar Under Logical Product</b>	$\overline{\underline{\wedge}}$	⠠⠠⠠⠠⠠⠠⠠⠠
<b>Equals Sign Over and Equals Sign Under Logical Product</b>	$\overline{\underline{=}}\wedge$	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
<b>Logical Product with Equals Sign Under</b>	$\underline{=}\wedge$	⠠⠠⠠⠠⠠⠠

- ⦿  $ABD \bar{\wedge} A'B'D'$       ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
- ⦿  $\{A\} \underline{\wedge} K$       ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
- ⦿  $p \underline{=}\wedge q$       ⠠⠠⠠⠠⠠⠠⠠⠠

An unmodified logical product sign is a sign of operation. See [6.4.6](#).



### 6.8.8 Tilde:

<b>Bar Over Single Tilde</b>	$\bar{\sim}$	
<b>Equals Sign Over Single Tilde</b>	$\bar{=}$	
<b>Double Tilde</b>	$\approx$	
<b>Bar Over Double Tilde</b>	$\bar{\approx}$	
<b>Equals Sign Over Double Tilde</b>	$\bar{\cong}$	
<b>Single Tilde with Bar Under</b>	$\underset{\sim}{\sim}$	
<b>Single Tilde with Equals Sign Under</b>	$\underset{=}{\sim}$	
<b>Double Tilde with Bar Under</b>	$\underset{\approx}{\approx}$	
<b>Double Tilde with Equals Sign Under</b>	$\underset{\cong}{\approx}$	

➤  $3.14159 \approx 3.1416$

➤  $ABC \cong DEF$

**6.8.9 Union:** The union sign is a sign of comparison when modified by a bar or equals sign above or below it. It may also be referred to as a "cup".

<b>Bar Under Union</b>	$\underline{\cup}$	
<b>Equals Sign Under Union</b>	$\underline{=}$	

➤  $A \underline{\cup} B$

An unmodified union sign is a sign of operation. See [6.4.10](#).

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*Instructions:* Change the two-column format to a nested list by starting each phrase in cell 1, with each math example starting on a new line in cell 3. Braille "Signs of Comparison Compounded Vertically" as a cell-5 heading.

## PRACTICE 6D

### Signs of Comparison Compounded Vertically

<b>Greater Than Or Equal To</b>	$ab \overline{\equiv} de$ $ y  \geq 0$
<b>With Inclusion</b>	$C' \subset F'$ $(B \cap E) \subseteq (E \times E)$
<b>With Intersection</b>	$X \cap Y$ $X \underline{\cap} Y$
<b>Less Than Or Equal To</b>	$q - 7 \leq 5z$ $-6 \leq x \leq -1$
<b>With Logical Product</b>	$QRS \overline{\wedge} Q'R'S'$ $y \underline{\wedge} z$
<b>With Logical Sum</b>	$ABC \overline{\vee} A'B'C'$ $M(E \underline{\vee} H)$
<b>With Reverse Inclusion</b>	$D \supset C$ $B \supseteq A$
<b>With Tilde</b>	$3.14159 \approx 3.1416$ $ABC \cong DEF$
<b>With Union ("Cup")</b>	$A \underline{\cup} B$

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**6.9 Signs of Comparison Compounded Horizontally:** When two or more signs of comparison are arranged side by side, the combination becomes a single comparison sign compounded horizontally. A multipurpose indicator (dot 5) is inserted between the unspaced symbols to indicate that they are printed horizontally, not vertically. Comparison signs compounded horizontally not shown in the lists below are transcribed in accordance with this principle.

### 6.9.1 Greater Than ...

<b>Followed by Less Than</b>	$><$	$\cdot\cdot\cdot\cdot\cdot\cdot$
<b>Followed by Equals Followed by Less Than</b>	$>=<$	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$

$\gg n > < 1$ 
 $\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot$

$\gg n > = < 1$ 
 $\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot$

### 6.9.2 Less Than ...

<b>Followed by Greater Than</b>	$<>$	$\cdot\cdot\cdot\cdot\cdot\cdot$
<b>Followed by Equals Followed by Greater Than</b>	$<=>$	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$

$\gg n < > 1$ 
 $\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot$

$\gg n < = > 1$ 
 $\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot$

**6.10 Negated Signs of Comparison:** In print, a sign of comparison may be negated by a vertical or a slanted line drawn through it. The print negation symbol may be slanted in either direction. In braille,  $\cdot\cdot$  represents any of the print negation lines.  $\cdot\cdot$  is placed immediately before the sign of comparison being negated. Some examples are shown below. Negated signs of comparison not illustrated below are transcribed according to the same principle.

<b>Negated Equals Sign</b>	$\neq$ or $\neq$	$\cdot\cdot\cdot\cdot\cdot\cdot$
<b>Negated Parallel To</b>	$\nparallel$	$\cdot\cdot\cdot\cdot\cdot\cdot$
<b>Negated Perpendicular To</b>	$\nperp$	$\cdot\cdot\cdot\cdot\cdot\cdot$
<b>Negated Greater Than or Equal To</b>	$\ncong$	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$
<b>Negated Membership</b>	$\notin$ or $\notin$	$\cdot\cdot\cdot\cdot\cdot\cdot$

$\gg 4 \times 13 \neq 14$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$

$\gg CD \nparallel EF \nperp GH$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$

$\gg 4 \ncong 7$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$

$\gg 9 \notin D$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$ 
 $\cdot\cdot\cdot\cdot\cdot\cdot$

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*Instructions:* Use the principles learned in this section to construct symbols that are not shown in the examples.

### PRACTICE 6E

- (1)  $x \notin A$  means "x is not an element of A".
  - (2) By typing  $\leq$  the symbol  $\leq$  will appear. By typing  $\nless$  the symbol  $\nless$  will appear.
  - (3)  $A \not\subseteq B$  means that at least one element of A is not an element of B.
  - (4)  $WXY \sim VXW$
  - (5) Since  $L \nparallel M$  and  $M \nparallel N$ , does it follow that  $L \nparallel N$ ?
  - (6) The domain is all  $x \neq -4, 0, 5$ .
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### FORMAT: INSTRUCTIONS

**6.11 Margins for Instructions Preceding Itemized Material (5-3):** When a group of numbered or lettered problems is preceded by instructions, the instructions begin in cell 5, with runovers in cell 3. One line is left blank above instructions unless the instructions follow a cell-5 or a cell-7 heading. Instructions may begin on line 1 of the braille page if no running head is in use. The related itemized material follows on the next line unless the material itself requires a blank line before it.

*Example 6.11-1 (The dashed line indicates a page turn in the print copy.)*

**Problem Set 7F** Tell whether the following ratios are equivalent.

1.  $3 : 2 = 75 : 50$

2.  $6 : 4 = 15 : 30$

Which of the following sentences are true? Which are false?

3.  $328 \div 4 = 41 \times 2$

4.  $672 - 415 < 312 \div 3$

---

Multiply.

54

5.  $11,251.54 \times 1436$

6.  $1000 \times 476,792$







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*Instructions:* Braille "Signs of Comparison" and "Adding and Subtracting Integers" as cell-5 headings.

## **PRACTICE 6F**

### Signs of Comparison

These examples illustrate the basic spacing rules for comparison signs learned in this unit.

- (1)  $5 < 9 < 11$
- (2)  $11.7 > 1.17$
- (3)  $550 : 11 :: ? : 12$

### Adding and Subtracting Integers

Find the sum or difference as indicated by the signs.

- 1)  $-6 + -5 = \underline{\quad}$
- 2)  $5 + -19 = \underline{\quad}$
- 3)  $-7 - -13 = \underline{\quad}$
- 4)  $29 - -24 = \underline{\quad}$

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*For further practice, see Appendix A—Reading Practice.*











