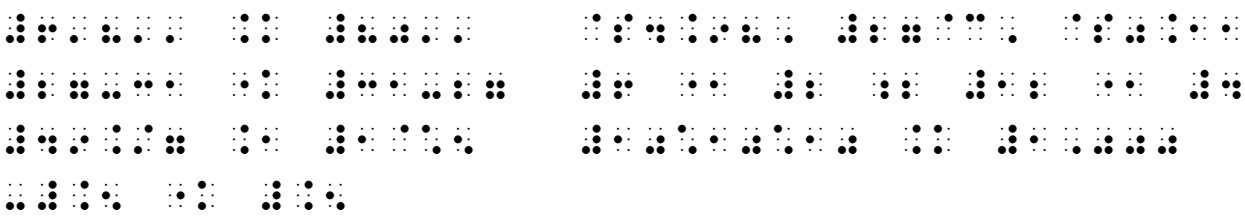
APPENDIX A — READING PRACTICE

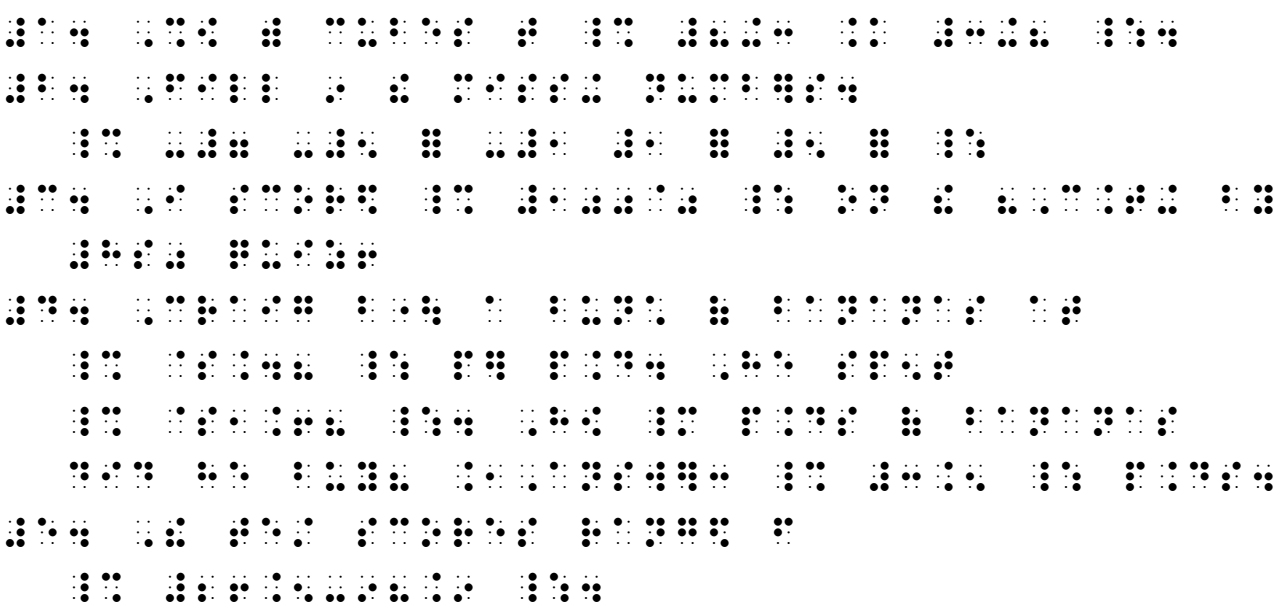
Proofreading your work will improve as you become more proficient at recognizing the braille symbols. The exercises in this appendix will develop your braille reading skills. After studying each lesson, write the back translation of the simulated braille. Check your interpretation by comparing to the print version found in the second half of this appendix.

These readings contain only a few of the topics covered in the course. You can gain more reading practice by back translating the answers to practice material at the end of each lesson.

Introductory Lesson



Lesson 1



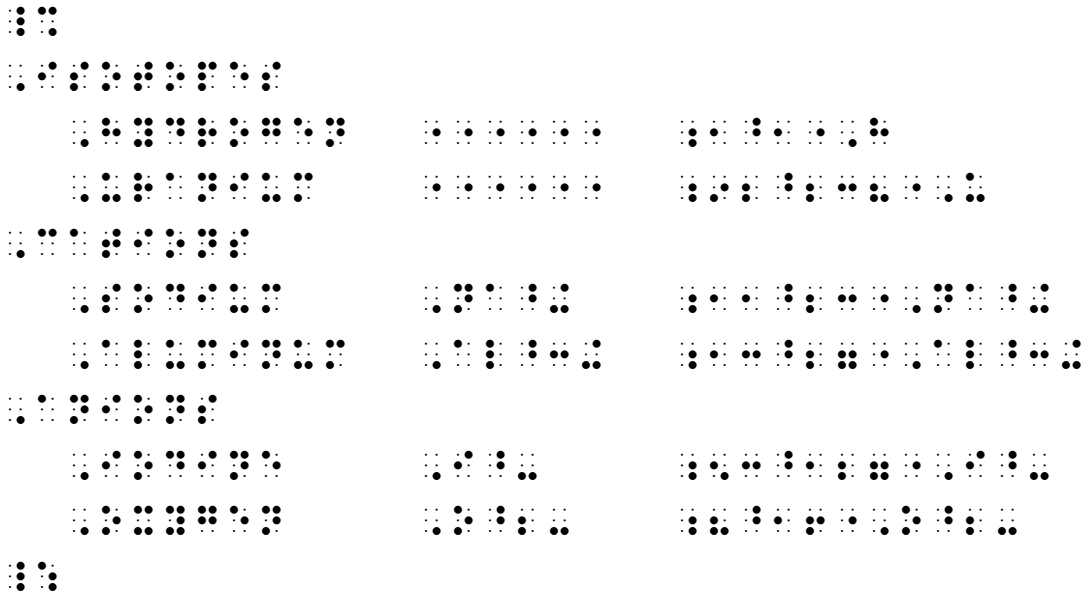
Lesson 2

Lesson 3

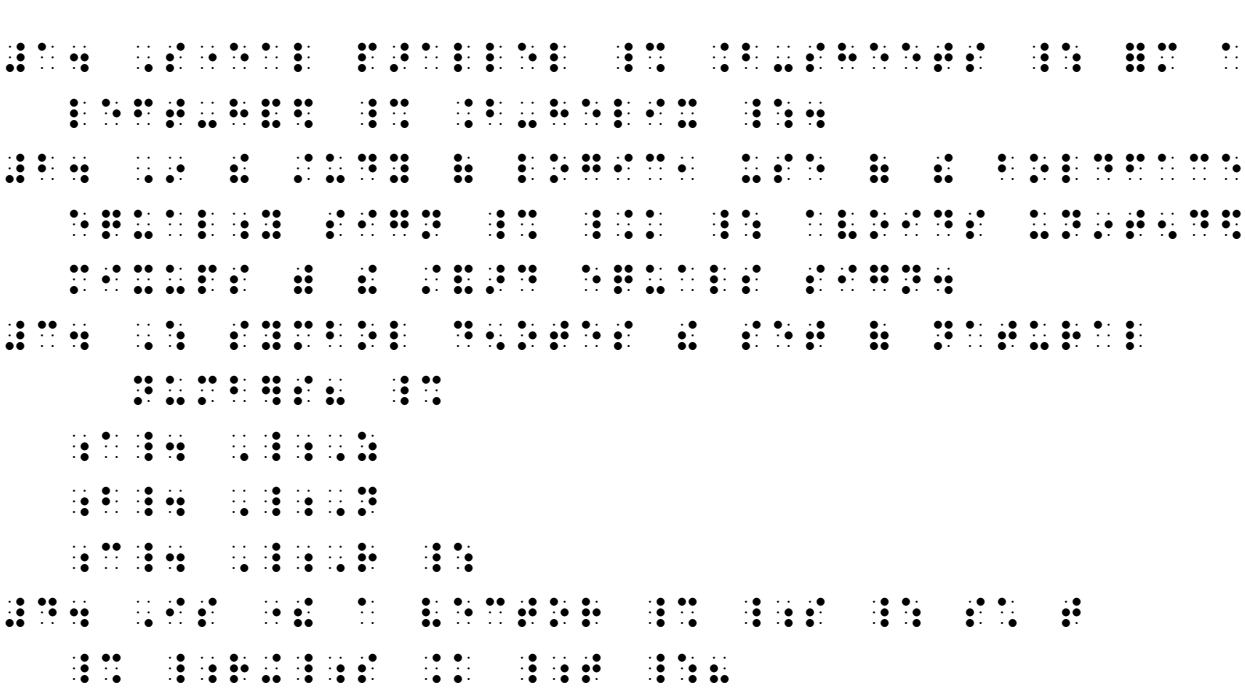
Lesson 4

Lesson 5

Lesson 6



Lesson 7



Lesson 8

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Lesson 9

[illegible]

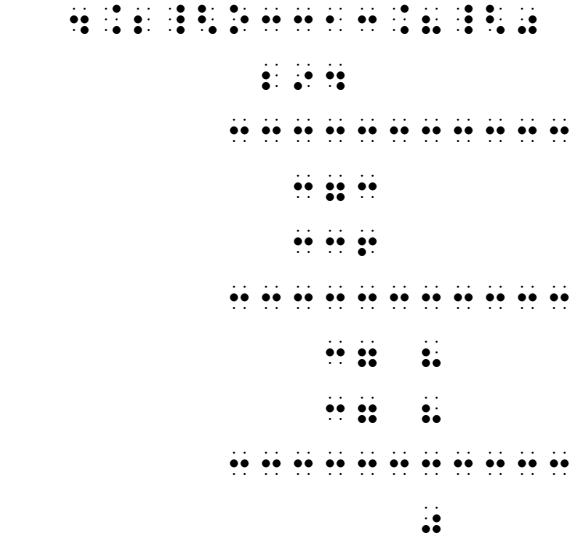
[illegible]

[illegible]

[illegible]

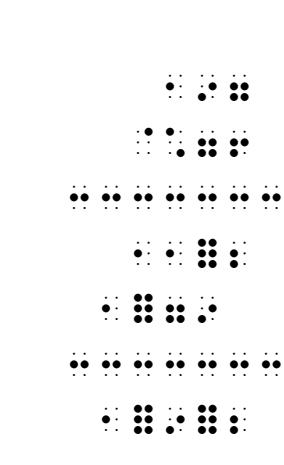
[illegible]

⠠⠁ ⠠⠗⠑⠁⠙⠊⠝⠛ ⠠⠞⠓⠑ ⠠⠊⠝⠙⠑⠏⠑⠝⠙⠑⠝⠞ ⠠⠁⠇⠏⠓⠁⠃⠑⠞ ⠠⠕⠋ ⠠⠞⠓⠑ ⠠⠁⠍⠑⠗⠊⠉⠁⠝ ⠠⠊⠝⠙⠊⠁⠝ ⠠⠁⠇⠏⠓⠁⠃⠑⠞ ⠠⠊⠞



⠠⠊⠞

⠠⠁⠗⠗⠁⠝⠛⠑ ⠠⠁ ⠠⠁ ⠠⠗⠑⠁⠙⠊⠝⠛ ⠠⠗⠑⠎⠏⠕⠝⠙⠊⠝⠛ ⠠⠊⠞



⠠⠊⠞

Lesson 11

⠼⠁⠲ ⠠⠉⠁⠇⠉⠥⠇⠁⠞⠑ ⠮ ⠞⠕⠞⠁⠇ ⠉⠕⠌ ⠷ ⠁⠝ ⠊⠞⠑⠍
⠎⠑⠇⠇⠬ ⠿ ⠸⠩ ⠈⠎⠦⠨⠶⠔ ⠠⠄⠾ ⠼⠢⠨⠢⠈⠴ ⠸⠱ ⠞⠁⠭
⠁⠙⠙⠫⠲ ⠸⠩
⠼⠦⠫⠅⠨⠻⠶⠔⠫⠅⠬⠻⠢⠫⠅⠨⠻⠢⠫⠅⠈⠴⠻⠫⠅⠨⠅⠻
⠼⠆⠸⠲ ⠫⠪ ⠠⠁⠠⠃⠠⠙⠬⠫⠪ ⠠⠙⠠⠃⠠⠑ ⠨⠅ ⠿
⠼⠒⠸⠲ ⠈⠷⠁⠠ ⠃⠈⠾⠫⠉⠸⠫⠨⠌⠻⠈⠷⠉⠠ ⠙⠈⠾
⠼⠲⠸⠲ ⠨⠷⠫⠞⠠ ⠫⠙⠠ ⠫⠉⠨⠾⠨⠬⠨⠷⠫⠲⠨⠾
⠼⠢⠸⠲ ⠠⠄⠠⠁⠙⠙ ⠫⠪⠸⠫⠼⠒⠼⠘⠨⠡⠐⠻ ⠠⠄⠯
⠫⠪⠸⠫⠼⠆⠴⠘⠨⠡⠐⠻ ⠸⠱⠲

Lesson 12

⠐⠣⠊⠐⠜ ⠠⠗⠑⠺⠗⠊⠞⠑ ⠵ ⠁ ⠎⠊⠍⠏⠇⠊⠋⠊⠫ ⠋⠗⠁⠉⠰⠝⠲ ⠸⠩
⠼⠴⠨⠒⠱
⠼⠒⠨⠂⠖⠱
⠼⠆⠨⠐⠂⠦⠣⠱⠻
⠷⠊⠊⠾ ⠠⠄⠠⠧⠻⠎⠕⠗ ⠐⠸⠰⠥⠣⠸⠣⠻ ⠸⠱ ⠷ ⠁ ⠝⠕⠝⠵⠻⠕
⠧⠑⠉⠞⠕⠗ ⠸⠩ ⠸⠰⠥ ⠠⠄⠊⠎
⠐⠸⠰⠥⠣⠸⠣⠻ ⠨⠅ ⠹⠸⠰⠥⠌⠳⠸⠰⠥⠳⠼ ⠠⠄⠂⠱ ⠳⠸⠰⠥⠳ ⠸⠱
⠊⠎ ⠮ ⠇⠢⠛⠹ ⠷ ⠸⠩ ⠸⠰⠥ ⠸⠱⠲

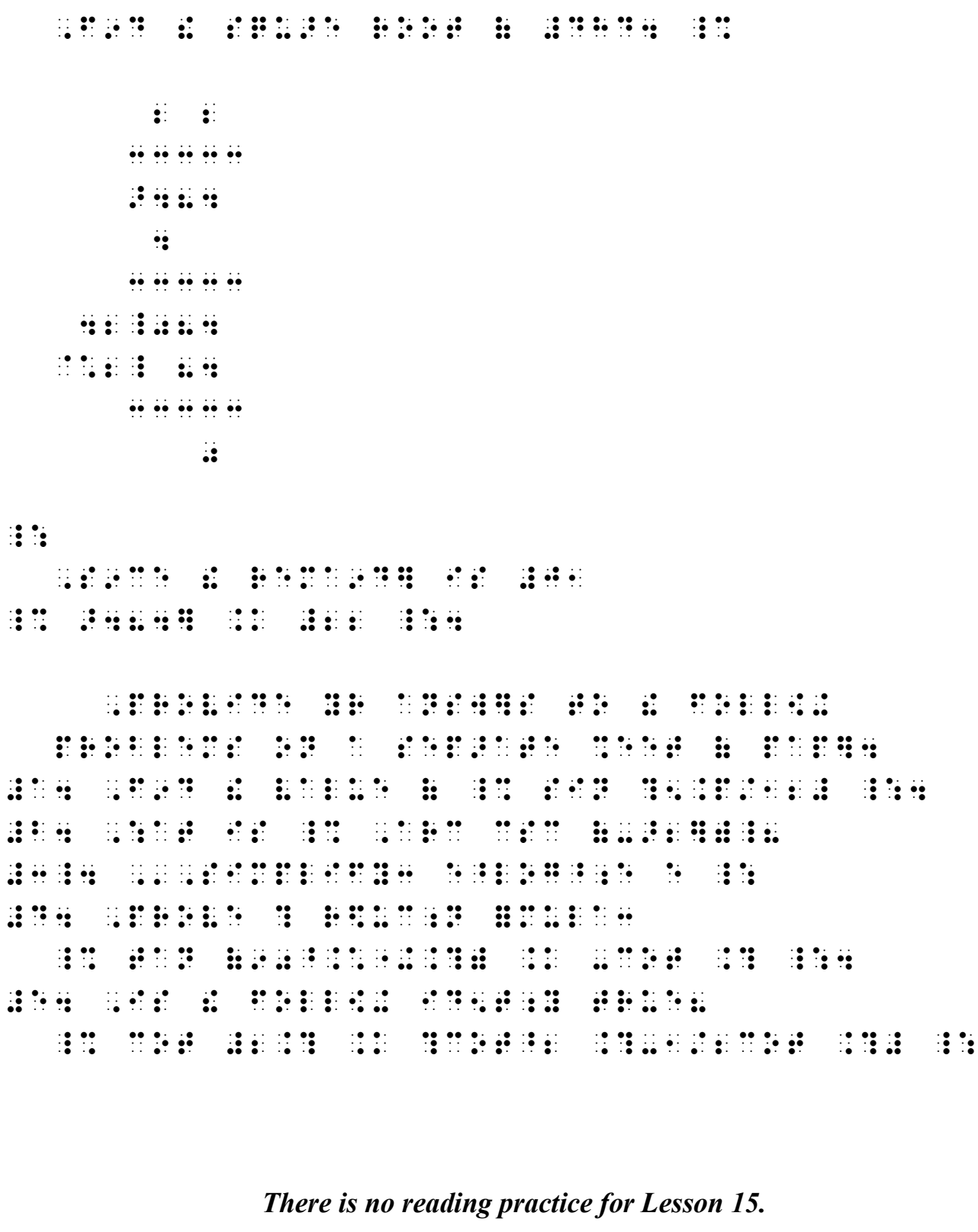
Lesson 13

⠠⠉⠕⠍⠏⠥⠞⠑ ⠮ ⠝⠥⠍⠃⠻⠎ ⠔⠙⠊⠉⠁⠞⠫ ⠃⠽ ⠮
⠋⠁⠉⠞⠕⠗⠊⠁⠇ ⠝⠕⠞⠁⠰⠝⠲ ⠸⠩
⠼⠂⠸⠲ ⠹⠖⠯⠌⠒⠯⠂⠯⠼
⠼⠆⠸⠲ ⠼⠶⠯
⠼⠒⠸⠲ ⠹⠂⠴⠯⠌⠢⠯⠢⠯⠼ ⠸⠱

⠠⠐⠓ ⠊⠎ ⠁ ⠐⠏⠊⠁⠇ ⠔⠞⠑⠛⠗⠁⠰⠝ ⠎⠕⠇⠥⠰⠝⠂ ⠥⠎⠬
⠸⠩ ⠨⠽ ⠈⠻⠼⠂⠸⠲ ⠋⠷⠭⠠ ⠽⠾ ⠨⠅ ⠮⠠⠍⠷⠭⠠ ⠽⠾⠈⠙⠭
⠨⠅ ⠮⠷⠆⠭⠭⠘⠆⠐⠬⠭⠘⠆⠐⠤⠽⠾⠈⠙⠭⠠ ⠠⠄⠐⠮⠿⠑
⠋⠷⠭⠠ ⠽⠾ ⠨⠅ ⠭⠘⠆⠐⠽⠘⠆⠐⠬⠝⠂⠌⠒⠼⠭⠚⠒⠐⠤⠭⠽⠬⠨⠽⠷⠴⠾⠸⠲

⠐⠒⠒⠒⠒⠒⠒
⠈⠻⠼⠂ ⠸⠱ ⠠⠛⠗⠑⠑⠅ ⠇⠗ ⠏⠎⠊⠲

Lesson 14



There is no reading practice for Lesson 15.

Lesson 16

⠸⠩

⠦⠸⠹⠂⠆⠌⠦⠸⠼

⠼⠦⠾ ⠔⠸⠹⠂⠌⠆⠸⠼ ⠨⠅ ⠪⠔⠸⠹ ⠲⠌⠦⠸⠼⠻

⠤⠲⠸⠹⠶⠌⠦⠸⠼ ⠨⠅ ⠲⠸⠹ ⠶⠌⠦⠸⠼

⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒

⠲⠸⠹ ⠢⠌⠦⠸⠼

⠼⠔⠾ ⠠⠄⠠⠊⠋

⠹⠂⠌⠆⠼⠨⠌⠹⠂⠌⠒⠼ ⠨⠅ ⠠⠹⠂⠸⠌⠆⠠⠌⠂⠸⠌⠒⠠⠼⠠

⠠⠹⠂⠸⠌⠆⠠⠌⠂⠸⠌⠒⠠⠼

⠠⠄⠑⠭⠏⠗⠑⠎⠎ ⠠⠠⠹⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠒⠠⠠⠼ ⠠⠄⠥⠎⠬

⠼⠂⠂

⠨⠌ ⠸⠱ ⠎⠽⠍⠃⠕⠇⠎⠲

Lesson 17

There are no reading practices for the remaining lessons.

ANSWERS

Introductory Lesson

$6'8'' = 80''$	$\$4.98,\ 27¢,\ \$0.11$
$27 - 31 < 31 - 27$	$6:2 :: 12:4$
$49 \div 7 > 1 \times 5$	$10 \cdot 10 \cdot 10 = 1{,}000$
$-.5 < .5$	

Lesson 1

1. Show with cubes that $8 + 3 = 3 + 8$.
2. Fill in the missing numbers. $-7 \quad -5 \quad$ __?__ $\quad -1 \quad 1 \quad$ __?__ $\quad 5 \quad$ __?__
3. I scored 100% on the "Counting By 8s" quiz!
4. Craig bought a bunch of bananas at \$.48 per pound. He spent \$1.68. How many pounds of bananas did he buy? *Answer:* 3.5 pounds.
5. The test scores ranged from 26.5-98.9.

Lesson 2

1) On a number line, the <u>distance</u> from 0 to –3 is its <u>absolute</u> <u>value</u>—that is, $|-3| = 3$.
2) What is $|-13|$? $-(-13) = +13$ because two $-$'s make a $+$.
3) $[(3 + 2) \times (6 - 4) + 2] \times 4 = [(5 \times 2) + 2] \times 4 = 48$
4) Complete the number series: .25, .5, .75, ___, ___.

Lesson 3

Since 1 yr = 52 weeks, how many weeks are there in 2 yrs?

This is the set of children wearing red socks today: {Chloe, Oliver, Charlie}.

Ava counted 7 drops in 1.5 sec. How many drops will fall in 1.5 min?

Here are the commutative properties of addition and multiplication expressed using a and b: $a + b = b + a$ and $a \cdot b = b$ or $ab = ba$.

The area of rectangle PQRS is 4.5 sq. m. If side PQ is 3 cm, how long is side QR?

Lesson 4

i) The area of an ellipse, expressed as "A": $A = \pi ab$.

ii) Point (5, 7) is on ray ST.

iii) Power set notation may use the "Weierstrass P" as in P(S). If $S = \{\ \}$ then P(S)= {{ }} is returned.

iv) The hexadecimal system uses symbols 0-9 and A-F. For example, 45,997 in base 10 is B3AD in base 16.

TN Letters representing hexadecimal digits are capitalized in print. TN

Lesson 5

$\sim p \vee q$ is spoken: "not p or q (or both)".

Integer division is sometimes denoted \, as illustrated here: $10/3 = 3 + 1/3$, so $10\backslash 3 = 3$. The remainder is not noted.

Graph this inequality. $y \leq x + 2$

Use a number line to explain why $-6 - -6 = 0$. Is this the same as $-6 - +6$?

1 # (2 & 3) = (1 # 2) & (1 # 3)

Lesson 6

Isotopes

Hydrogen		${}^{1}_{1}\mathrm{H}$
Uranium		${}^{238}_{92}\mathrm{U}$

Cations

Sodium	Na^{+}	${}^{23}_{11}\mathrm{Na}^{+}$
Aluminum	Al^{3+}	${}^{27}_{13}\mathrm{Al}^{3+}$

Anions

Iodine	I^{-}	${}^{127}_{53}\mathrm{I}^{-}$
Oxygen	O^{2-}	${}^{16}_{8}\mathrm{O}^{2-}$

Lesson 7

1. Several parallel β-sheets form a left-handed β-helix.

2. In the study of logic, use of the boldface equality sign **=** avoids unintended mixups with the standard equals sign.

3. Which symbol denotes the set of natural numbers?

   a. $\mathbb{Z}$

   b. $\mathbb{N}$

   c. $\mathbb{R}$

4. Is there a vector $\mathbf{s}$ such that $\mathbf{r} + \mathbf{s} = \mathbf{t}$?

Lesson 8

To simplify a radical expression, use the product and quotient properties of radicals,

$$\sqrt{xy} = \sqrt{x} \cdot \sqrt{y} \text{ and } \sqrt{\frac{x}{y}} = \frac{\sqrt{x}}{\sqrt{y}}$$

as demonstrated below.

$$\sqrt{16x} = \sqrt{16} \cdot \sqrt{x} = \sqrt{4^2} \cdot \sqrt{x} = 4\sqrt{x}$$

$$\sqrt{\frac{25}{16}\,x^2} = \frac{\sqrt{25}}{\sqrt{16}} \cdot \sqrt{x^2} = \frac{5}{4}x$$

$$\sqrt{\frac{15}{16}} = \frac{\sqrt{15}}{\sqrt{16}} = \frac{\sqrt{15}}{4}$$

Lesson 9

Prove that S is a subspace of V if and only if:

(1) $v, w \in S \Rightarrow v + w \in S$

(2) $\lambda \in K, v \in S \rightarrow \lambda \cdot v \in S$

Find the mistake:

$$\begin{array}{r} {\scriptstyle 4\ 13} \\ \cancel{5}\,\cancel{3}35 \\ -4\,925 \\ \hline 1410 \end{array}$$

Lesson 10

The division problem $4.2\overline{)3313.8}$ is demonstrated below.

```
          789.0
4.2^)3313.8^0
     294
      373
      336
        378
        378
          0
```

Fill in the missing digits.

```
  197
  ×76
 11□2
1□79
1□9□2
```

Note: Since the braille general omission symbol doesn't specify what is used in print, your translation may show a different omission sign.

Lesson 11

1. Calculate the total cost of an item selling for \$8.79 with 5.5% tax added.

   8 [.] 7 9 [+] 5 [.] 5 [%] [=]

2. ∠ABD + ∠DBE = ?
3. [a, b] ⊜ [c, d]
4. {△, ◊, ○} ∪ {□}
5. Add ∠30° and ∠20° .

Lesson 12

(i) Rewrite as a simplified fraction.

$0.\overline{3}$

$3.1\overline{6}$

$2.\overline{18}$

(ii) Versor $\hat{\mathbf{u}}$ of a nonzero vector $\mathbf{u}$ is $\hat{\mathbf{u}} = \dfrac{\mathbf{u}}{|\mathbf{u}|}$ where $|\mathbf{u}|$ is the length of $\mathbf{u}$.

Lesson 13

Compute the numbers indicated by the factorial notation.

1. $\dfrac{6!}{3!2!}$

2. $7!$

3. $\dfrac{10!}{5!5!}$

Here is a partial integration solution, using ψ[1]. $f(x,y) = \int M(x,y)\partial x$ $= \int (2xy^2 + x^2 - y)\partial x$, therefore $f(x,y) = x^2y^2 + \frac{1}{3}x^3 - xy + \psi(y)$.

---

[1] Greek letter psi.

Lesson 14

Find the square root of 484.

$$
\begin{array}{r|l}
 & 22 \\
\hline
\sqrt{484} & \\
 & 4 \\
42 & 084 \\
\times 2 & 84 \\
\hline
 & 0
\end{array}
$$

Since the remainder is 0, $\sqrt{484} = 22$.

Provide your answers to the following problems on a separate sheet of paper.

1. Find the value of $\sin \frac{5\pi}{12}$.
2. What is Arc csc $\left(-\sqrt{2}\right)$?
3. Simplify: $e^{\log_e e}$
4. Prove this reduction formula : $\tan(90° + \theta) = -\cot\theta$.
5. Is the following identity true? $\cot 2\theta = \dfrac{\cot^2\theta - 1}{2\cot\theta}$

Lesson 16

8) $$\begin{array}{r} 8\frac{12}{8} \\ 9\frac{1}{2} = \cancel{9\frac{4}{8}} \\ -\,4\frac{7}{8} = 4\frac{7}{8} \\ \hline 4\frac{5}{8} \end{array}$$

9) If $\frac{1}{2} \div \frac{1}{3} = \frac{1/2}{1/3}$, express $\frac{\frac{1/2}{1/3}}{11}$ using ÷ symbols.

9) If $\frac{1}{2} \div \frac{1}{3} = \frac{1/2}{1/3}$, express $\frac{\frac{1/2}{1/3}}{11}$ using ÷ symbols.

Lesson 17

Scalar Multiplication Multiply the matrix by the scalar "2", like this:

$$2 \times \begin{bmatrix} 4 & 0 \\ 1 & -9 \end{bmatrix} = \begin{bmatrix} 8 & 0 \\ 2 & -18 \end{bmatrix}.$$

The second matrix above is the result of four calculations: $2 \times 4 = \mathbf{8}$, $2 \times 0 = \mathbf{0}$, $2 \times 1 = \mathbf{2}$, and $2 \times -9 = \mathbf{-18}$.

The system $\begin{pmatrix} x + 2y = 8 \\ 2x - 3y = 2 \end{pmatrix}$ has the solution set $\{(4,\ 2)\}$.