Key

NAME   DATE   PERIOD
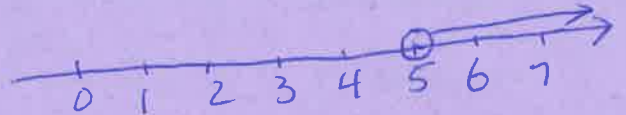
19

Unit 7, Lesson 9: Solutions of Inequalities

1. a. Select **all** numbers that are solutions to the inequality $k > 5$.

     i. 4   No
     ii. 5   No
     iii. 6 Yes
     iv. 5.2 Yes
     v. 5.01 Yes
     vi. 0.5 No

/6
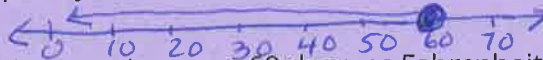
b. Draw a number line to represent this inequality.

2. A sign on the road says: "Speed limit, 60 miles per hour."

/3

a. Let s be the speed of a car. Write an inequality that matches the information on the sign.

$s < 60$ or $s = 60$
or
$s \leq 60$

b. Draw a number line to represent the solutions to the inequality.
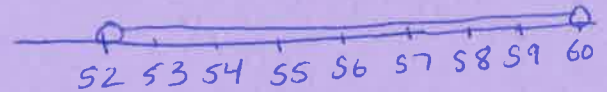
c. Could 60 be a value of s? Explain your reasoning.

3. One day in Boston, MA, the high temperature was 60 degrees Fahrenheit, and the low temperature was 52 degrees.

/2

a. Write one or more inequalities to describe the temperatures T that are between the high and low temperature on that day.

$T > 52$ ~~T ≥ 52~~
$T < 60$ ✗

b. Show the possible temperatures on a number line.

4. Select **all** the true statements.

/5

e on next
page

A. $-5 < |-5|$ True
   $-5 < 5$

B. $|-6| < -5$ False
   $6 < -5$

C. $|-6| < 3$ False
   $6 < 3$

D. $4 < |-7|$ True
   $4 < 7$

E. $|-7| < |-8|$ True

$7 < 8$

(from Unit 7, Lesson 7)

5. Match each equation to its solution.

A. $x^4 = 81$ b $x = 3$ $3 \cdot 3 \cdot 3 \cdot 3$

$\quad\quad\quad\quad\quad\quad\quad\quad\quad$ 9 $\quad$ 9

B. $x^2 = 100$ d $x = 10$ $10 \cdot 10$

$1/4$

C. $x^3 = 64$ c $x = 4$ $4 \cdot 4 \cdot 4$

$\quad\quad\quad\quad\quad\quad\quad\quad\quad$ 16 $\cdot$ 4

D. $x^5 = 32$ a $x = 2$ $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$

$\quad\quad\quad\quad\quad\quad\quad\quad\quad$ 4 $\cdot$ 4 $\cdot$ 2

a. 2
b. 3
c. 4
d. 10

(from Unit 6, Lesson 15)

$	%
250	100
125	50
25	10
150	60

×6 ( ) ×6

20% 40% 60% 80% 100%
├───┼───┼───┼───┤
50 100 150 200 250
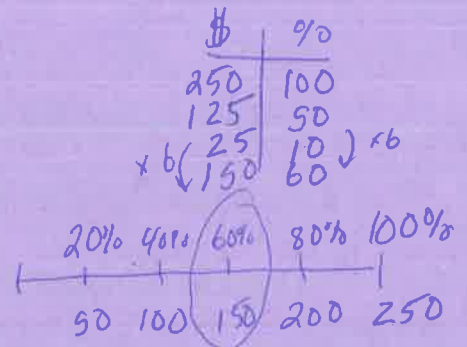
6. a. The price of a cell phone is usually $250. Elena's mom buys one of these cell phones for $150. What percentage of the usual price did she pay?

divide $\frac{150}{250} = .6 = 60\%$

$1/2$

b. Elena's dad buys another type of cell phone that also usually sells for $250. He pays 75% of the usual price. How much did he pay?

.75

$\begin{array}{r} 2\overset{3}{5}0 \\ \times .75 \quad (2) \\ \hline 12\ 50 \\ 175\ 0 \\ \hline 187.50 \end{array}$

(from Unit 3, Lesson 14)