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UNIT I

LESSON 1

1. **Number symbol:** Three and fourteen hundredths
2. **Grouping symbol:** Braces
3. **Operation symbol:** Multiply
4. **Grouping symbols:** Parentheses; multiply
5. **Grouping symbol:** Groups numerator elements, groups denominator elements; divide
6. **Relation symbol:** Is less than
7. **Number symbol:** Five-thirds
8. **Number symbol:** Eight and one tenth
9. **Variable:** Holds the place of a number until number is identified
10. **Relation symbol:** Is greater than

LESSON 2

1. Open sentence
2. Closed phrase
3. Closed sentence
4. Open phrase
5. Open sentence
6. $x + 3 = 7 \quad \{\text{multiples of } 4\}$
   $4 + 3 = 7$
   $7 = 7 \quad$ T
   $8 + 3 = 7$
   $11 = 7 \quad$ F

   Solution set is {4}
7. $30 - 5 \div 5$
   $= 30 - 1$
   $= 29$
8. $5 + 8 \neq 14$
   $13 \neq 14$
   True
9. $\frac{5n}{4} + 3 \quad \{0, 2, 4\}$

   $\frac{5(0)}{4} + 3 = 3$

   $\frac{5(2)}{4} + 3 = \frac{11}{2}$

   $\frac{5(4)}{4} + 3 = 8$

   Range $= \left\{3, \frac{11}{2}, 8\right\}$
10. $y - 2 > 7 \quad \{\text{multiples of } 4\}$
    $(8) - 2 > 7$
    $6 \not> 7 \quad$ F
    $(12) - 2 > 7$
    $10 > 7 \quad$ T

    Solution set is $\{12, 16, 20, \ldots\}$ since solutions must be multiples of 4

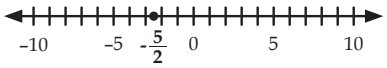
LESSON 3

1. $\frac{1}{3}n - 8$
2. $4c + \frac{x}{y}$ or $(4 \cdot c) + (x \div y)$
3. $3 + (7y + 8)$
4. $p + 2r = q \cdot n$
5. $-3n \geq 57$
6. $t + r = \frac{s}{q}$
7. $2n + 12 = 3n - 31$
8. $a \cdot b \cdot \frac{1}{2}c = d$
9. $\frac{1}{2}n + 16 = \frac{2}{3}n - 4$
10. $8 + 2n > 3n$
11. $\frac{5}{8}n = \frac{1}{2}n + 3$
12. $\frac{n}{3} + 4 \geq n$
13. $\frac{1}{5}n + 5n = 7n - 18$

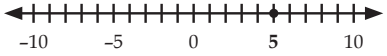
UNIT II

LESSON 29

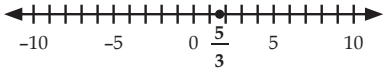
1. $S = \left\{-\frac{5}{2}\right\}$



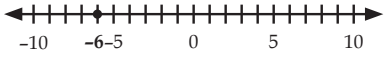
2. $S = \{5\}$



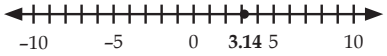
3. $S = \left\{\frac{5}{3}\right\}$



4. $S = \{-6\}$



5. $S = \{3.14\}$



6. $S = \{m \mid m > -3\}$



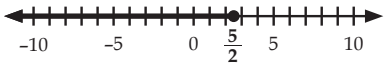
7. $S = \{x \mid x \leq 4\}$



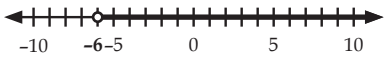
8. $S = \{p \mid p \geq 0\}$



9. $S = \left\{a \mid a \leq \frac{5}{2}\right\}$



10. $S = \{v \mid v > -6\}$



LESSON 30

1.
$$a - 18.4 = 21.8$$
$$a + (-18.4) = 21.8$$
$$a + (-18.4) + 18.4 = 21.8 + 18.4$$
$$a + 0 = 40.2$$
$$a = 40.2$$

$S = \{40.2\}$

2.
$$n + 7 > 2$$
$$n + 7 + (-7) > 2 + (-7)$$
$$n + 0 > -5$$
$$n > -5$$

$S = \{n \mid n > -5\}$



3.
$$65 + f = 135$$
$$65 + (-65) + f = 135 + (-65)$$
$$0 + f = 70$$
$$f = 70$$

$S = \{70\}$

4.
$$y - 3.7 = 10$$
$$y + (-3.7) = 10$$
$$y + (-3.7) + 3.7 = 10 + 3.7$$
$$y + 0 = 13.7$$
$$y = 13.7$$

$S = \{13.7\}$

5.
$$a - 6 \leq 2$$
$$a + (-6) \leq 2$$
$$a + (-6) + 6 \leq 2 + 6$$
$$a + 0 \leq 8$$
$$a \leq 8$$

$S = \{a \mid a \leq 8\}$

