A. Solve.

1) \[ \frac{4x - 1}{-2x} = \frac{2x - 31}{-2x} \]
   \[ \frac{2x - 1}{1} = \frac{-31}{1} \]
   \[ \frac{2x}{2} = \frac{-30}{2} \]
   \[ x = -15 \]

2) \[ \frac{2x - 7}{+7} = -15 \]
   \[ \frac{2x}{2} = \frac{-8}{2} \]
   \[ x = -4 \]

3) \[ -13 = 10 - \frac{x}{-10} \]
   \[ -23 = -\frac{x}{2} \]
   \[ 46 = x \]

4) \[ \frac{3(2x + 7)}{-6x - 21} = -75 \]
   \[ \frac{3(2x + 7)}{+21} = \frac{-75}{+21} \]
   \[ \frac{-6x}{-6} = \frac{-54}{-6} \]
   \[ x = 9 \]

5) \[ -5x - 2.34 = 5.9 \]
   \[ +2.34 +2.34 \]
   \[ -5x = 8.24 \]
   \[ x = 1.648 \]

6) \[ 5 - 2x = 13 + 2x \]
   \[ +2x +2x \]
   \[ 5 = 13 + \frac{4x}{4} \]
   \[ -2 = x \]
7) \( \frac{1}{2} (10x + 4) = 17 \)
   \[
   \begin{align*}
   5x + 2 &= 17 \\
   -2 &= -2 \\
   5x &= 15 \\
   5 &= 5 \\
   x &= 3
   \end{align*}
   \]

10) \( \frac{x}{3} + 3.5 = 1.8 \)
   \[
   \begin{align*}
   -3.5 &= -3.5 \\
   \frac{x}{3} &= 1.8 \\
   3 \cdot \frac{x}{3} &= -1.7 \cdot 3 \\
   x &= -5.1
   \end{align*}
   \]

8) \( 6x - 19 > -37 \)
   \[
   \begin{align*}
   +19 &= +19 \\
   6x &> -18 \\
   \frac{6x}{6} &> \frac{-18}{6} \\
   x &> -3
   \end{align*}
   \]

11) \(-54 \geq 4(-12 + x) \)
   \[
   \begin{align*}
   -54 &= -48 + 4x \\
   +48 &= +48 \\
   -6 &
   \end{align*}
   \]
   \[
   \begin{align*}
   \frac{4}{4} x &
   \end{align*}
   \]
   \[
   \begin{align*}
   \frac{-3}{2} \text{ or } -1.5 \leq x
   \end{align*}
   \]

9) \(-4x + 11 + 2x \leq 50 \)
   \[
   \begin{align*}
   -2x + 11 &
   \end{align*}
   \]
   \[
   \begin{align*}
   -11 &
   \end{align*}
   \]
   \[
   \begin{align*}
   -2x &
   \end{align*}
   \]
   \[
   \begin{align*}
   39 &
   \end{align*}
   \]
   \[
   \begin{align*}
   \frac{-2}{-2} &
   \end{align*}
   \]

12) \( \frac{x}{-8} - 1.4 < 7 \)
   \[
   \begin{align*}
   +1.4 &= +1.4 \\
   -8 \cdot \frac{x}{-8} &< 8.4 \cdot -8 \\
   x &> -67.2
   \end{align*}
   \]

B. Write a translation for the given situation.

13) Judy buys 6 CDs (each one cost the same) and a cassette tape for a total of $90.75. The cassette tape cost $5.25. Use “k” to represent the cost of one CD.

\[
6k + 5.25 = 90.75
\]
14) Andy weighs 198 lbs. He starts a weight-gain program that is supposed to add 3 lbs each week. His goal is to weigh 240 lbs. Use "w" to represent how many weeks he must use the weight-gain program.

\[ 198 + 3w = 240 \]

15) Josh wants to buy a new TV that costs $1400. He's already saved $850, and plans to make the rest by washing dishes for $8.50 an hour. Use "h" to represent how many hours he must work to earn enough money to afford the TV.

\[ 850 + 8.50h \geq 1400 \]

16) Bill gets $400 in birthday money from his Aunt Hilda. He goes to the mall and buys a new suit for $189, and spends the rest on movie tickets that cost $8 each. Use "m" to represent how many movie tickets he can afford.

\[ 189 + 8m \leq 400 \]

17) A crate filled with a dozen pinball machines weighs 4,300 lbs. The crate, when empty, weighs 350 lbs. Use "p" to represent the weight of each pinball machine.

\[ 12p + 350 = 4300 \]

18) If Jonathan’s lunch account falls below $100, he must pay a $50 fee. Jonathan’s lunch account currently contains $425. Each week he spends $45 on lunch. Use "w" to represent how many weeks until he must replenish his lunch account to avoid being charged the $50 fee.

\[ 425 - 45w \geq 100 \]
C. Solve for the given variable.

19) \[ P = 2L + 2W \text{, solve for } W. \]
\[
\frac{P - 2L}{2} = \frac{2W}{2}
\]
\[ W = \frac{P - 2L}{2} \]

20) \[ I = prt \text{, solve for } p. \]
\[
\frac{I}{rt} = \frac{r}{t}
\]
\[ p = \frac{I}{rt} \]

21) \[ 4x - 5y = 9z \text{, solve for } x. \]
\[
\frac{+5y}{4} = \frac{9z + 5y}{4}
\]
\[ x = \frac{9z + 5y}{4} \]

22) \[ 4ab = 5c - 19 \text{, solve for } b. \]
\[
\frac{4ab}{4a} = \frac{5c - 19}{4a}
\]
\[ b = \frac{5c - 19}{4a} \]

23) \[ \frac{1}{3} y + 5x = 7 \text{, solve for } y. \]
\[
\frac{-5x}{3 \cdot \frac{1}{3} y} = \frac{(7 - 5x) \cdot 3}{3}
\]
\[ y = 21 - 15x \]