Section 2.3 Solving Linear Equations Involving Fractions and Decimals;
             Classifying Equations
  Math 102 Course Outline Unit II Objective:
- Verify solutions of linear equations using algebra both by hand and with the calculator.
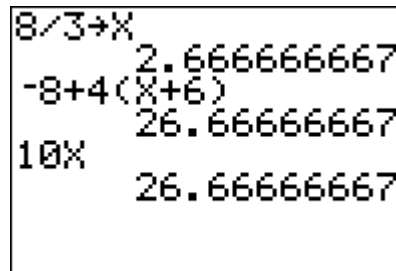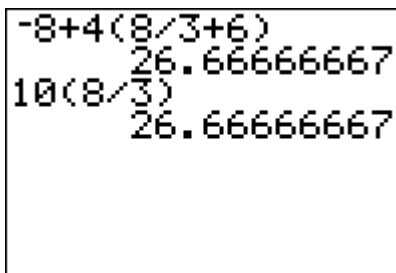
Calculator features that may be used in this lesson:
- Home screen
- Operations keys: $+, -, \times, \div$
- Variable key   X,T,θ,n
- Opposite key: (-)
- Change answer to a fraction in MATH menu
- Store (STO ➤) key

Example 1: Algebraically solve for x: $-8 + 4(x + 6) = 10x$ and verify the solution using
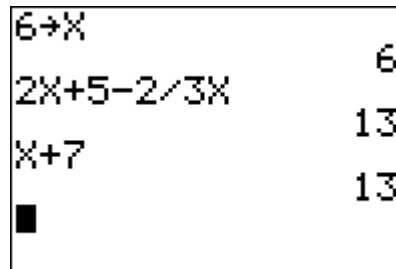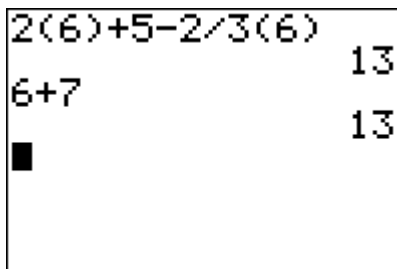   a. Home screen substitution   b.   STO key

Solution: a. Home screen substitution   b. STO key

```
-8+4(8/3+6)
          26.66666667
10(8/3)
          26.66666667
```

```
8/3→X
          2.666666667
-8+4(X+6)
          26.66666667
10X
          26.66666667
```

Example 2: Algebraically solve for x: $2x + 5 - \dfrac{2}{3}x = x + 7$ and verify the solution using
             a.   Home screen substitution   b.   STO key

Solutions: a. Home screen substitution   b. STO key

```
2(6)+5-2/3(6)
                13
6+7
                13
■
```

```
6→X
                 6
2X+5-2/3X
                13
X+7
                13
■
```

Example 3: Algebraically, solve for x: $\dfrac{3x+2}{4} - \dfrac{x}{12} = \dfrac{x}{3} - 1$ and verify the solution using

        a. Home screen substitution   b. STO key

Solutions: a. Home screen substitution   b. STO key

```
(3(-9/2)+2)/4-(-
9/2)/12
               -2.5
(-9/2)/3-1
               -2.5
■
```

```
-9/2→X
               -4.5
(3X+2)/4-X/12
               -2.5
X/3-1
               -2.5
■
```

INSTRUCTOR NOTE

    Advise students to use parentheses appropriately, especially in Example 3.