Warm Up:
Solve each equation
1. \[ 3 + 2x = 11 \]
   \[ x = 4 \]
2. \[ 21 - 5x = 36 \]
   \[ x = -3 \]
3. \[ 13x - 7 = 19 \]
   \[ x = 2 \]
4. \[ 3x + 6 = 18 \]
   \[ x = 4 \]

ACT Question:
There are 45 students signed up for the performance band, while 30 are signed up for the jazz band. If 19 students are signed up for both bands, how many students are signed up for only one of the bands?
A.) 11  B.) 16  C.) 37  D.) 56  E.) 75

Steps to solve a Multi-Step Equation:
1.) Combine Like Terms
2.) Add or Subtract
3.) Multiply or Divide

Examples 1 and 2:
Solve each equation.

\[ 19 - 14 = -13 \]
\[ 19 - 2h = -13 \]
\[ -19 \]
\[ 2h = -32 \]
\[ h = 16 \]

\[ 14 + 6a = 18 \]
\[ 6a = 4 \]
\[ a = 2 \]
Examples 3 and 4:
Solve each equation.

5n - 16 - 8n = -10

25 + 7 + 3k = 12

-3n - 6 = -10

25 = 3k - 5

+10 +10

+5 +5

=-3n

-3

n = -2

Steps to solve a Multi-Step Equation:

1.) Distributive Property
2.) Combine Like Terms
3.) Add or Subtract
4.) Multiply or Divide

Examples 5-8:
Solve each equation.

42j + 18 - 19j = -28

23j + 18 = -28

-16

\[ \frac{23}{23} \]

\[ \frac{-16}{23} \]

[-2]

Examples 9 and 10:
Solve each equation.

2(x - 4) = 6

2x - 8 = 6

+8 +8

\[ \frac{x}{2} = \frac{14}{2} \]

\[ x = 7 \]

(with your shoulder buddy)

-34 + 10 + 42 - 5v

\[ \frac{-34}{42} \]

\[ \frac{-42}{4} \]

V = 19

-28 + 15 - 22z = 31

\[ \frac{-28}{15} \]

\[ \frac{31}{13} \]

-20 = 6d - 8d

-20 = -2d

\[ \frac{-20}{-2} \]

d = 10

\[ \frac{-20}{8} \]

\[ \frac{10}{8} \]
Examples 11 and 12:
Solve each equation.

\[
\begin{align*}
3r + 2(r - 4) &= 12 \\
3y + 2y - 8 &= 12 \\
5r - 8 &= 12 \\
\frac{5r}{8} &= \frac{20}{5} \\
r &= 4 \quad (\text{with your shoulder buddy})
\end{align*}
\]

Examples 13-16:
Solve each equation.

\[
\begin{align*}
3(4y - 8) &= 12 \\
12y - 24 &= 12 \\
+24 &= +24 \\
12y &= 36 \\
\frac{12y}{12} &= \frac{36}{12} \\
y &= 3 \quad X = -3 \quad (x + 1)
\end{align*}
\]

Examples 17 and 18:
Solve each equation.

\[
\begin{align*}
\frac{(9 + 5)}{x} &= \frac{2}{3} \\
0 + 5 &= 2 \\
-\frac{5}{2} &= -\frac{5}{2} \\
a &= -3 \quad (\text{with your shoulder buddy})
\end{align*}
\]

Examples 19 and 20:
Solve each equation.

\[
\begin{align*}
0.52y + 2.5 &= 5.1 \\
-0.52y &= -2.6 \\
\frac{0.52y}{0.52} &= \frac{-2.6}{0.52} \\
y &= 5
\end{align*}
\]

\[
\begin{align*}
4n + 0.24 &= 15.76 \\
-4n &= -15.52 \\
\frac{4n}{4} &= \frac{-15.52}{4} \\
0.25 &= 4n \\
\frac{0.25}{4} &= \frac{4n}{4} \\
0.0625 &= n \\
\end{align*}
\]
Example 21:
General admission tickets to the fair cost $3.50 per person. Ride passes cost an additional $5.50 per person. Parking costs $6 for the family. The total costs for ride passes and parking was $51. How many people in the family attended the fair?

\[
3.50f + 5.50f + 6 = 51
\]

\[
9f + 6 = 51
\]

\[
f = 5 \text{ people}
\]

Coursework
pg 98 # 11-29 odd, 33, 37, 39, 41, 55

Summary
What are the steps to solve a multi-step equation?
1) Distributive property
2) Combine like terms
3) Add/subtract
4) Multiply/divide

Do I solve equations with decimals any differently?

No.