Name: _____

Equations and Inequalities with Rational Numbers

Solve the inequality by first clearing the fractions.

1) $\frac{2}{3}x - 1 > \frac{1}{6}$

2) $\frac{8}{15}x - \frac{17}{30} \prec \frac{7}{10}$

3) $\frac{7}{13}x - 1 > \frac{1}{2}$

4) $\frac{4}{5} \geq \frac{2}{3} - \frac{2}{7}x$

5) $-\frac{4}{11}z - 1 > -\frac{8}{11}$

6) $\frac{1}{5}k + 14 \leq \frac{2}{9}$

7) $-\frac{31}{4} < -13 + \frac{7}{8}f$

8) $\frac{1}{7}r + \frac{53}{56} \succ \frac{6}{7}$

9) $\frac{5}{6}n - \frac{1}{5} \prec -\frac{8}{15}$

10) $\frac{1}{3} + \frac{1}{13}d \geq \frac{17}{39}$

11) Your class is selling gift wrap for a school fundraiser. One fourth of the money collected will be used to pay for the gift wrap. Your class wants to raise at least $675 after paying for the gift wrap. How much money does your class need to collect?

12) Each morning you feed your dog $\frac{3}{4}$ cup of dry dog food. At night you feed him $\frac{1}{3}$ cup of dry dog food. You buy a bag of dog food that contains 40 cups. How many days will the bag last?

13) The speed of sound in air depends on temperature. The relationship between the speed of sound and the air temperature is given by the equation $v = 331.4 + 0.6T$, where v is the speed of sound in meters per second and T is the air temperature in degrees Celsius. During a storm, the speed of sound was measured at 343.37 meters per second. What was the air temperature?