

1. Solve for x if $\frac{6}{x-3} = -\frac{5}{x-2} - \frac{5}{x^2-5x+6}$.
2. Dick and Anne took a trip to France. Their suitcases were weighed at the airport and the weight was recorded as 39 kilograms. If 50 kg is equivalent to 110 lbs, how many pounds did their suitcases weight (round to the nearest pound)?
3. When raking the leaves that fall in the fall around their home, Fred can do the job in 8 hours when working alone, but Suzie can get it done in 6 hours. They know this from experience in previous years. This year, both Fred and Suzie are going to rake the leaves together. How long will it take them (round to the nearest minute)?
4. A flagpole that is 8 ft tall casts a shadow of 3 ft. At the same time, an office building casts a shadow of 450 ft. How tall is the office building?
5. Solve $\frac{7}{8x} - \frac{3}{4} = \frac{1}{4x} + \frac{1}{2}$.
6. Solve for x when $\frac{6}{x-5} + \frac{3x+1}{x^2-2x-15} = \frac{5}{x+3}$.
7. Solve $\frac{y+18}{y^2-16} = \frac{y}{y+4} - \frac{y}{y-4}$.
8. What values of x are not allowed in the expression $\frac{\frac{4}{x+3}}{\frac{5}{x}-1}$.

Solutions

1. There is no solution.
2. 86 lbs
3. 3 hrs 26 minutes
4. 1200 ft
5. $x = \frac{1}{2}$
6. $x = -11$
7. $y = -2$
8. $x \neq -3, 5, 0$.