4-6

Practice

Rational Equations and Partial Fractions

Solve each equation.

1. $\frac{15}{m} - m + 8 = 10$

2. $\frac{4}{b-3} + \frac{3}{b} = \frac{-2b}{b-3}$

3. $\frac{1}{2n} + \frac{6n-9}{3n} = \frac{2}{n}$

4. $t - \frac{4}{t} = 3$

5. $\frac{3a}{2a+1} - \frac{4}{2a-1} = 1$

6. $\frac{2p}{p+1} + \frac{3}{p-1} = \frac{15-p}{p^2-1}$

Decompose each expression into partial fractions.

7. $\frac{-3x-29}{x^2-4x-21}$

8. $\frac{11x-7}{2x^2-3x-2}$

Solve each inequality.

9. $\frac{6}{t} + 3 > \frac{2}{t}$

10. $\frac{2n+1}{3n+1} \leq \frac{n-1}{3n+1}$

11. $1 + \frac{3y}{1-y} > 2$

12. $\frac{2x}{4} - \frac{5x+1}{3} > 3$

13. ***Commuting*** Rosea drives her car 30 kilometers to the train station, where she boards a train to complete her trip. The total trip is 120 kilometers. The average speed of the train is 20 kilometers per hour faster than that of the car. At what speed must she drive her car if the total time for the trip is less than 2.5 hours?