

Math 3 Day 3 CATS Review- Rationals

1. Simplify.

a. $\frac{2x^2 - 7x - 15}{x^2 - 7x + 10}$

b. $\frac{3x^2 + 8x + 5}{x^2 + 5x + 4}$

2. Simplify. $\frac{a^2 + 3a}{a^2 + 5a - 6} - \frac{4}{a^2 + 5a - 6}$

3. Simplify. $\frac{2x^2 + 9x - 5}{6x^2 - 13x + 6} \div \frac{x^2 + x - 20}{3x^2 - 14x + 8}$

4. Solve. $\frac{x-1}{15} = \frac{2}{5}$

5. Solve. $\frac{3}{x+2} - \frac{1}{x} = \frac{1}{5x}$

6. On their vacation, a family traveled 135 miles by train and then traveled 855 miles by plane. The speed of the plane was 3 times the speed of the train. If the total time of the trip was 6 hours, what was the speed of the train?

7. Find the vertical and horizontal asymptotes, zeros, y-intercepts, and holes.

a. $F(x) = \frac{2x^2 - 7x - 15}{x^2 - 7x + 10}$

b. $g(x) = \frac{2x^2 + 13x + 20}{x + 4}$