

BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE

MTH 28. Review for Midterm 2

1. Perform the indicated operations and simplify:

(a) $\frac{6x^3 - 6x}{3x^3 + 3x^2}$

(b) $\frac{4yz}{5a^2} \cdot \frac{10a^5}{12xy} \div \frac{6}{3a}$

(c) $\frac{4x^2 + x - 5}{x^3 - x^2} \cdot \frac{x^2 + 2x}{4x^2 + 13x + 10}$

(d) $\frac{x^2 - 7x + 12}{x^2 - 4x + 4} \div (x - 3)$

(e) $\frac{2x^2 - 8y^2}{2xy - 4y^2} \div \frac{4x^2 - 16y^2}{2x^2 - 4xy}$

(f) $\frac{x^2 + x - 12}{x^2 - 9} \div \frac{x^2 + 4x}{x^2 + 5x + 6}$

(g) $\frac{2}{5x^2y} + \frac{1}{x} + 2$

(h) $\frac{2}{2x + 3} + \frac{1}{x + 5}$

(i) $\frac{2x^2 - 10}{2x^2 + 17x + 21} - \frac{x + 4}{x + 7}$

(j) $\frac{\frac{7}{ab} - \frac{3}{b^2}}{\frac{2}{a^2} + \frac{7}{b^2}}$

(k) $\frac{\frac{2}{x^2 - 4}}{\frac{5}{x + 2} - \frac{3}{x - 2}}$

2. Solve:

(a) $\frac{2}{x} + 7 = \frac{7x}{x + 5}$

(b) $\frac{3}{2x - 1} + \frac{1}{x} = 4$

(c) $\frac{x}{x - 4} + \frac{1}{x + 1} = \frac{2x}{x^2 - 3x - 4}$

(d) $\frac{2}{x + 2} + \frac{15}{x^2 - 4x - 12} = \frac{3}{x - 6}$