

## Chapter 7 Practice Test, Part 2

Simplify.

1.  $\frac{x^2 - 3x - 10}{x^2 - 7x + 6} \cdot \frac{x^2 + 2x - 3}{x^2 - x - 6}$

2.  $\frac{x^2 - 6x + 8}{x^2 - 5x + 6} \div \frac{x^2 - 7x + 12}{x^2 - 4x + 4}$

Simplify.

3.  $\frac{2}{x-4} - \frac{x+12}{x^2-16}$

4.  $\frac{3x}{x-4} + \frac{2x}{x+3}$

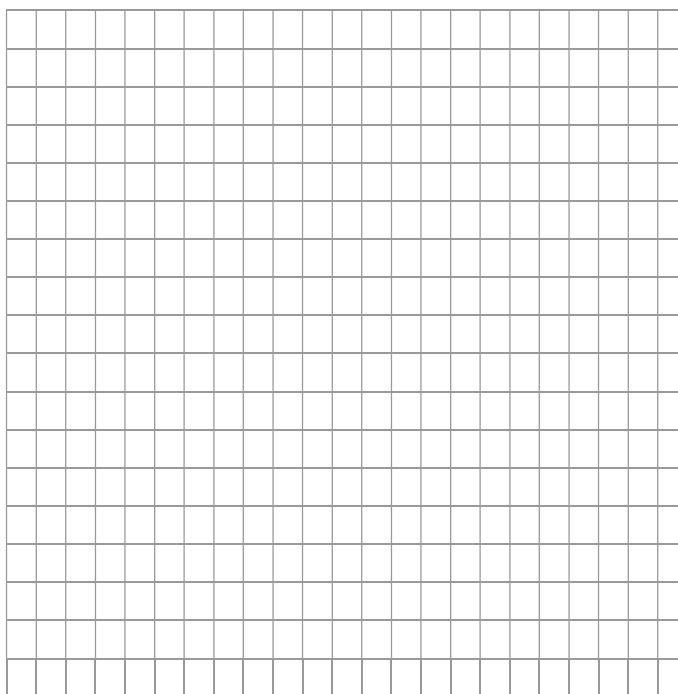
Solve for x. Check for extraneous solutions.

5.  $\frac{20x-37}{x^2-x-20} + \frac{x}{x+4} = \frac{2x-3}{x-5}$

6.  $\frac{y}{y-3} + \frac{2}{y-4} = \frac{7y-20}{y^2-7y+12}$

7. For the function  $f(x) = \frac{x - 4}{x^2 + x - 20}$

- a. What is the domain?
- b. Are there any removable discontinuities? If so, where?
- c. Are there any asymptotes? If so, where?
- d. Draw the graph. Show any asymptotes or discontinuities on the graph.



8. For the function  $f(x) = \frac{x^2 - 1}{x^2 - 3x - 4}$

- a. What is the domain?
- b. Are there any removable discontinuities? If so, where?
- c. Are there any asymptotes? If so, where?