

6.3 Practice B

In Exercises 1–6, simplify the expression, if possible.

1. $\frac{4x^3}{3x^3 + 7x}$

2. $\frac{x^2 + 5x + 6}{x^2 + 2x - 3}$

3. $\frac{2x^2 - 5x}{x^2 + 7x + 12}$

4. $\frac{x^2 - x - 20}{x^3 + 64}$

5. $\frac{x^4 - 16}{5x^3 - 3x^2 + 20x - 12}$

6. $\frac{6x^3 - 6x^2 + 5x - 5}{72x^4 - 50}$

In Exercises 7–12, find the product.

7. $\frac{x^4(x-4)}{x+3} \cdot \frac{(x+3)(x-2)}{x^5}$

8. $\frac{x^2 + 6x}{x-4} \cdot \frac{x^2 - 2x - 8}{x}$

9. $\frac{x^2 - 2x}{x+5} \cdot \frac{x^2 + 6x + 5}{3x}$

10. $\frac{x^2 - x - 6}{x^2 + 8x + 16} \cdot \frac{3x^2 + 12x}{x^2 - 2x - 3}$

11. $\frac{x^2 + 3x - 28}{x^2 - 25} \cdot (x^2 - 8x + 15)$

12. $\frac{x^2 + 2x - 15}{x^2 - 9} \cdot (x^2 - x - 12)$

In Exercises 13–16, find the quotient.

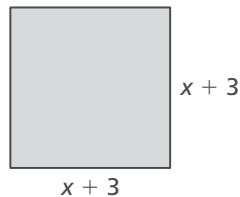
13. $\frac{2x^3 + 10x^2}{x^2 + x - 20} \div \frac{2x^2}{x-4}$

14. $\frac{x^2 - 10x + 21}{x+2} \div (x^2 - 14x + 49)$

15. $\frac{x^2 - 2x - 3}{x^2 + 2x - 8} \div \frac{x^2 + 4x + 3}{x^2 + 6x + 8}$

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

17. Find the ratio of the perimeter to the area of the square shown.



18. Find the expression that makes the following statement true. Assume $x \neq -5$ and $x \neq -3$.

$$\frac{x+3}{x^2-8x+12} \div \frac{\boxed{}}{x^2+3x-10} = \frac{x+5}{x-6}$$