

■ See Example 2.

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|---|---|
| 19. $\frac{5x + 25}{2x} \cdot \frac{4x}{2x + 10}$ | 20. $\frac{3y}{4xy - 6y^2} \cdot \frac{2x - 3y}{12x}$ |
| 21. $\frac{4a^2 - 1}{a^2 - 16} \cdot \frac{a^2 - 4a}{2a + 1}$ | 22. $\frac{9x^2 - 25}{2x - 2} \cdot \frac{x^2 - 1}{6x - 10}$ |
| 23. $\frac{2x^2 - x - 6}{3x^2 - 4x + 1} \cdot \frac{3x^2 + 7x + 2}{2x^2 + 7x + 6}$ | 24. $\frac{3x^2 - 7x - 6}{2x^2 - x - 1} \cdot \frac{2x^2 - 9x - 5}{3x^2 - 13x - 10}$ |
| 25. $\frac{7a + 14}{14a - 28} \cdot \frac{4 + 2a - 2a^2}{2a^2 + 2a - 4} \cdot \frac{4a - 12}{7a + 7}$ | 26. $\frac{5x^2 - 5x}{10x - 2} \cdot \frac{x^2 - 9x - 10}{4x - 40} \cdot \frac{x^2 - 2x}{2 - 2x^2}$ |
| 27. $\frac{3x^4 - 48}{x^4 - 4x^2 - 32} \cdot \frac{4x^4 - 8x^3 + 4x^2}{2x^4 + 16x}$ | 28. $\frac{x^4 - 3x^3}{x^4 + 6x^2 - 27} \cdot \frac{x^4 - 81}{3x^4 - 81x}$ |
| 29. $\frac{4u^2 - 16v^2}{u^2 + 2uv - 2u - 4v} \cdot \frac{2u^3v^2 - 8uv^2}{u^3v - u^2v^2 - 6uv^3}$ | 30. $\frac{a^2 + 3ax - 3a - 9x}{3a^4 - 27a^2x^2} \cdot \frac{3a^4 - 11a^3x + 6a^2x^2}{3a^2x^2 - 9ax^2}$ |

■ Write each product as a polynomial. See Example 3.

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| 31. $\frac{1}{2}x\left(\frac{2}{5}x - 6\right)$ | 32. $\frac{3}{4}y\left(\frac{1}{6}y + 8\right)$ | 33. $\left(x + \frac{1}{3}\right)\left(x + \frac{1}{3}\right)$ |
| 34. $\left(y - \frac{1}{3}\right)\left(y - \frac{1}{3}\right)$ | 35. $\left(y - \frac{1}{4}\right)^2$ | 36. $\left(y + \frac{1}{4}\right)^2$ |

■ Write each quotient as a single fraction in lowest terms. See Example 4.

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| 37. $\frac{4x - 8}{3y} \div \frac{6x - 12}{y}$ | 38. $\frac{6y - 27}{5x} \div \frac{4y - 18}{x}$ |
| 39. $\frac{a^2 - a - 6}{a^2 + 2a - 15} \div \frac{a^2 - 4}{a^2 + 6a + 5}$ | 40. $\frac{a^2 + 2a - 15}{a^2 + 3a - 10} \div \frac{a^2 - 9}{a^2 - 9a + 14}$ |
| 41. $\frac{10x^2 - 13x - 3}{2x^2 - x - 3} \div \frac{5x^2 - 9x - 2}{3x^2 + 2x - 1}$ | 42. $\frac{9x^2 + 3x - 2}{12x^2 + 5x - 2} \div \frac{9x^2 - 6x + 1}{8x^2 + 10x - 3}$ |
| 43. $\frac{x^3 + y^3}{x} \div \frac{x + y}{3x}$ | 44. $\frac{8x^3 - y^3}{x + y} \div \frac{2x - y}{x^2 - y^2}$ |
| 45. $\frac{xy - 3x + y - 3}{x^2 - x - 2} \div \frac{x^2 - 2x - 3}{x^2 - 4}$ | 46. $\frac{2xy + 4x + 3y + 6}{2x^2 + x - 3} \div \frac{y^2 + 4y + 4}{y^2 - 3y + 2}$ |

■ See Example 5.

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| 47. $1 \div \frac{x^2 - 1}{x + 2}$ | 48. $1 \div \frac{x^2 + 3x + 1}{x - 2}$ | 49. $(x^2 - 5x + 4) \div \frac{x^2 - 1}{x^2}$ |
| 50. $(x^2 - 9) \div \frac{x^2 - 6x + 9}{3x}$ | 51. $\frac{x^2 + 3x}{2y} \div 3x$ | 52. $\frac{2y^2 + y}{3x} \div 2y$ |

■ Divide. See Example 6.

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| 53. $\frac{18r^2s^2 - 15rs + 6}{3rs}$ | 54. $\frac{8a^2x^2 - 4ax^2 + ax}{2ax}$ | 55. $\frac{15s^{10} - 21s^5 + 6}{-3s^2}$ |
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