

$$f = (20x^4 - 2x^3 + 30x^2 + 50x + 100)(x + 2)$$

$$20x^5 - 2x^4 - 30x^3 + 50x^2 + 100x$$

$$20x^4 - 4x^3 + 60x^2 + 100x + 200$$

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$$20x^5 + 22x^4 - 26x^3 + 110x^2 + 200x + 200$$

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$$1. (-45x)(-50x^3y^3)(-2x^2y)$$

$$\underline{-10x^6y^4}$$

20/20 = 20/20  
20/55 = 20/55  
25/110 = 25/110

$$2. (-20A^3BC)(-9A^2B^2C^2)(-55ABC)(-6AB^2)$$

$$\underline{110A^7B^6C^4}$$

$$3. (3A^3 + 5B^2 - 4)(3A^2)$$

$$\underline{15A^3B^2 - 20}$$

$$4. (2/3 AB^2 - 1/4 A^2B^3 + 5/6 AB^4 - 2/5 B^5)(-1/2 AB^2)$$

$$(-\frac{2}{3} A^3B^2 + \frac{1}{4} A^2B^3 - \frac{5}{6} AB^4 + \frac{2}{5} B^5)(-\frac{1}{2} AB^2)$$

$$\underline{-\frac{10}{36} A^7B^6}$$

$$5. (3x^4 - 2x^3 - x^2 + 30x - 20)(20x^2 + 30x - 2)$$

$$60x^6 - 40x^5 - 20x^4 - 50x^3 - 20x^2$$

$$+ 90x^5 - 60x^4 - 30x^3 - 900x^2 - 20x^2$$

$$- 6x^4 + 4x^3 + 2x^2 - 60x^2 + 40$$

$$60x^6 - 50x^5 - 86x^4 + 76x^3 - 878x^2 + 40$$

$$= (5x^6 + 5x^4 + 30x^2 - 2x)(x^2 - x + 3)$$

$$5x^8 + 5x^6 + 30x^4 - 2x^3$$

$$+ 5x^6 + 5x^4 + 30x^3 - 2x^2$$

$$+ 15x^6 + 15x^4 + 90x^3 - 6x^3$$

$$\underline{5x^8 + 25x^6 + 50x^4 + 100x^3 - 4x^3}$$