

Additional Exercises Answers

6.1 Form I

1. monomial, 1 2. trinomial, 4 3. trinomial, 5 4. monomial, 0 5. $5y^5 - 15y^3$
6. $12y^7 + 8y^6 + 13y$ 7. $14y^6 + 6y^3 - 7$ 8. $12y^5 + 2y^3$ 9. $21y^4 - 2y^3 + y^2 - y$
10. $-12x + 6$ 11. $7y^3 - 13y^2$ 12. $-4x^5 - 11x^4 - 3$ 13. $-12x^4 + 3x^2$
14. $-4y^5 - 5y^3 + 35$ 15. \$6700

6.1 Form II

1. binomial, 3 2. monomial, 0 3. trinomial, 6 4. binomial, 2 5. $3x^3 - 2x^2 - 5$
6. $4x^5 - 4x^3 + 2x + 1$ 7. $4x^4 - x^3 - 5x - 4$ 8. $-3x^5 + 6x^4 + x^3 + 1$ 9. $12x^3 - x^2 + x + 2$
10. $-4x^2 + 2x - 4$ 11. $5x^5 - x^2 - 9x + 5$ 12. $6x^4 - 2x^3 - 5x^2 - 2x - 7$ 13. $-14x^3 - x^2$
14. $5x^4 + 7x^3 - 9x^2$ 15. 360 newtons

6.1 Form III

1. binomial, 9 2. trinomial, 3 3. monomial, 0 4. trinomial, 5 5. $-\frac{1}{2}x^3 + \frac{2}{7}x^2 + \frac{7}{9}$
6. $\frac{1}{7}x^3 + \frac{1}{3}x^2 - \frac{3}{4}x + \frac{1}{5}$ 7. $\frac{1}{5}x^2 + \frac{3}{4}x + \frac{31}{20}$ 8. $\frac{5}{7}x^2 - x + \frac{4}{5}$ 9. $\frac{3}{5}x^2 + \frac{4}{15}x - 1$
10. $4x^5 - 11x^4 - 2x^3 + 25$ 11. $\frac{1}{4}x^4 + \frac{3}{5}x^3 - \frac{1}{7}$ 12. $\frac{1}{2}x^3 + \frac{1}{3}x^2 - \frac{1}{5}x - \frac{3}{8}$
13. $\frac{7}{8}x^3 + \frac{4}{5}x^2 + x - 8$ 14. $2y^6 - 9y^4 - 2y$ 15. 3215

6.2 Form I

1. y^8 2. 3^{14} 3. x^{16} 4. 5^{24} 5. y^{48} 6. $9x^2$ 7. $-64x^{18}$ 8. $-14x^{13}$ 9. $-\frac{1}{56}x^{12}$
10. $x^2 + 11x$ 11. $-12x^3 - 48x^2$ 12. $56x^{10} + 49x^8$ 13. $32x^9 + 80x^8 + 88x^2$
14. $3x^2 - 23x - 110$ 15. $x^2 - 4x - 32$ 16. $x^3 + 6x - 20$ 17. $x^4 + 2x^3 - 16x^2 - 17x + 70$
18. $7x^3 + 62x^2 + 62x + 12$ 19. $y(2y + 7) = 2y^2 + 7y$ 20. $(24x^2 + 12x) \ln^2$

6.2 Form II

1. x^{10} 2. 4^{10} 3. y^{16} 4. 6^{12} 5. y^{36} 6. $-8x^3$ 7. $25x^8$ 8. $-18x^{14}$ 9. $-\frac{9}{14}x^9$
10. $2x^2 - 5x$ 11. $-6x^4 - 15x^3$ 12. $15x^{10} + 10x^9$ 13. $14x^8 + 28x^7 + 98x^3$
14. $4x^2 + 25x - 21$ 15. $x^2 + 6x - 27$ 16. $2x^3 - 11x^2 + 24x - 18$
17. $x^4 + x^3 + 4x^2 + 21x - 27$ 18. $15x^3 - 13x^2 + 22x - 4$ 19. $x(3x + 4) = 3x^2 + 4x$
20. $(18x^2 + 6x) \ln^2$

6.2 Form III

- x^{14}
- 4^{13}
- x^{16}
- 6^{40}
- y^{48}
- $-64x^3$
- $25x^{10}$
- $-24x^{11}$
- $-\frac{6}{35}x^9$
- $x^3 - 8x^2$
- $-18x^4 - 108x^3$
- $20x^{13} + 30x^7$
- $27x^9 + 63x^8 - 90x^4$
- $6x^2 - 32x + 32$
- $x^2 + 3x - 40$
- $3x^3 - 10x^2 - 16x + 32$
- $x^4 + 15x^2 + 16x - 55$
- $4x^3 - 5x^2 - x + 35$
- $y(3y + 8) = 3y^2 + 8y$
- $(12x^2 + 28x) \ln^2$

6.3 Form I

- $x^2 + x - 12$
- $2x^2 + 7x - 4$
- $12x^2 + x - 35$
- $35 - 17x + 2x^2$
- $x^3 + 5x^2 - 25x - 125$
- $a^2 - 4$
- $9 - m^2$
- $25 - 49r^2$
- $9x^2 - \frac{1}{9}$
- $x^4 - 1$
- $17n^2 + 22n + 121$
- $w^2 - 16w + 64$
- $9a^2 - 42a + 49$
- $4x^2 + 2x + \frac{1}{4}$
- $49x^2 - 2x + \frac{1}{49}$
- $64 - 64x + 16m^2$
- $n^6 + 18n^3 + 81$
- $(18x^2 + 9x - 20) \text{ units}^2$
- $(6x + 10) \text{ units}^2$
- $(6x^3 - 35x^2 + 50x) \text{ units}^3$

6.3 Form II

- $x^2 + 10x + 16$
- $4x^2 - 15x - 54$
- $12x^2 - 26x - 88$
- $8x^2 - 40x + 42$
- $x^3 + 3x^2 - 9x - 27$
- $a^2 - 1$
- $16 - m^2$
- $9 - 100r^2$
- $25x^2 - \frac{1}{25}$
- $x^4 - 25$
- $n^2 + 32n + 256$
- $w^2 - 20w + 100$
- $64a^2 - 144a + 81$
- $9x^2 + 2x + \frac{1}{9}$
- $25x^2 - 2x + \frac{1}{25}$
- $100m^2 - 220m + 121$
- $n^6 + 24n^3 + 144$
- $(32x^2 - 120x + 100) \text{ units}^2$
- $(-2x + 2) \text{ units}^2$
- $(4x^3 - 38x^2 + 84x) \text{ units}^3$

6.3 Form III

- $x^2 + 13x + 36$
- $5x^2 - 27x - 56$
- $12x^2 + 8x - 84$
- $72 - 69x + 15x^2$
- $x^3 + 5x^2 - 7x - 35$
- $a^2 - 169$
- $49 - m^2$
- $25 - 121r^2$
- $64x^2 - \frac{1}{64}$
- $x^4 - 49$
- $n^2 + 42n + 441$
- $w^2 - 28w + 196$
- $81a^2 - 198a + 121$
- $49x^2 + 2x + \frac{1}{49}$
- $81x^2 - 2x + \frac{1}{81}$
- $144 - 192m + 64m^2$
- $n^6 + 30n^3 + 225$
- $(45x^2 - 73x + 22) \text{ units}^2$
- $(17x - 1) \text{ units}^2$
- $(3x^3 - 50x^2 + 75x) \text{ units}^3$

6.4 Form I

1. -33
2. 28
3. 12
4. 18
5. -95
6. $4x^2y^2 + 4y^4$
7. $5x^4 + 25x^2y^2 + 2y^4$
8. $4x^2 + xy + 3y^2$
9. $8x^2 + 3xy + 7y^2$
10. $x^5 + 8x^4y + 12y^2$
11. $6x^7y^8$
12. $-12x^4y^9$
13. $-12a^2b^8 + 32ab^7$
14. $3x^2 + 26xy + 35y^2$
15. $20x^2 - 32xy - 16y^2$
16. $4x^2 + 28xy + 49y^2$
17. $25x^2 - 20xy + 4y^2$
18. $15x^2 + 10x - 42xy + 24y^2 - 8y$
19. $4a^2 - b^2$
20. $4x^2 - 4xy + y^2 - 1$

6.4 Form II

1. -44
2. 35
3. 18
4. 32
5. -125
6. $5x^2y^2 + 10y^4$
7. $-8x^4 + 36x^2y^2$
8. $5x^2 + 5xy + 10y^2$
9. $10x^2 + 6xy + 8y^2$
10. $-3x^5 + 10x^4y + 20y^2$
11. $64x^7y^7$
12. $-32x^3y^8$
13. $-36a^2b^{11} + 66ab^9$
14. $4x^2 + 50xy + 66y^2$
15. $35x^2 - 50xy - 40y^2$
16. $9x^2 + 30xy + 25y^2$
17. $49x^2 - 126xy + 81y^2$
18. $42x^2 - 156xy + 7x + 144y^2 - 12y$
19. $16a^2 - b^2$
20. $9x^2 - 6xy + y^2 - 25$

6.4 Form III

1. 30
2. 53
3. 9
4. 41
5. 65
6. $23x^2y^2 + 13y^4$
7. $9x^4 + 51x^2y^2 + 32y^4$
8. $11x^2 + 7xy + 9y^2$
9. $8x^2 + 4xy + 4y^2$
10. $x^5 + 12x^4y + 18y^2$
11. $81x^7y^8$
12. $-48x^3y^9$
13. $-42a^3b^{10} + 84ab^8$
14. $3x^2 + 59xy + 38y^2$
15. $30x^2 - 101xy + 77y^2$
16. $16x^2 + 64xy + 64y^2$
17. $64x^2 - 144xy + 81y^2$
18. $20x^2 + 28x - 107xy + 143y^2 - 77y$
19. $25a^2 - 4b^2$
20. $16x^2 - 16xy + 4y^2 - 36$

6.5 Form I

1. 2^2 or 4
2. x^2
3. x^2y^4
4. 1
5. -1
6. 1
7. 7
8. 1
9. $\frac{4}{a^2}$
10. $\frac{27x^6}{y^3}$
11. $\frac{4p^2v^4}{s^6}$
12. $-4x^4$
13. $5x^3yz$
14. $-6x^5y^3$
15. $-\frac{x}{3}$
16. $\frac{7}{15}$
17. $3r^6 - 2r^3$
18. $x^5 - 2x^2$
19. $3x^4 + 4x^3$
20. $2x^2y - 3x^4y^2 + 4$

6.5 Form II

1. 4^2 or 16
2. x^5
3. $x^{11}y^4$
4. 1
5. -1
6. 1
7. 12
8. 1
9. $\frac{9}{a^2}$
10. $\frac{256x^{12}}{y^8}$
11. $\frac{4p^6v^8}{s^8}$
12. $-9x^9$
13. $5x^8y^9z$
14. $-8x^{10}y^3$
15. $-\frac{x^4}{4}$
16. $\frac{8}{11}$
17. $3r^7 - 5r^4$
18. $4x^6 - 2x^3$
19. $4x^8 + 10x^4$
20. $4x^4y^4 - 8x^2y^2 - 9$

6.5 Form III

1. 11^6 2. x^4 3. x^2y^3 4. 1 5. -1 6. 1 7. 18 8. 1 9. $\frac{49}{a^{10}}$ 10. $\frac{625x^{20}}{y^{12}}$
11. $\frac{25p^{12}v^{16}}{s^{14}}$ 12. $8x^{12}$ 13. $3x^{11}y^8z^{11}$ 14. $-2x^3y^3$ 15. $-\frac{7x^5}{12}$ 16. $\frac{17}{23}$ 17. $2x^8 - 3x^5$
18. $7x^4 - 6x^2$ 19. $5x^6 + 3x^3$ 20. $5x^4y^4 - 4x^2y^2 - 9$

6.6 Form I

1. $x+5$ 2. $x-5$ 3. $x+2$ 4. $x+3$ 5. $x-2$ 6. $x+4$ 7. $x-9$ 8. $x+8$ 9. $x+5$
10. $x-1$ 11. $3x-2$ 12. $7m-7$ 13. $7m^2-3m+8$ 14. $6r^2+5r+4$ 15. $5x^2-3x-4$

6.6 Form II

1. $x-3-\frac{8}{x-1}$ 2. $x-5-\frac{50}{x-5}$ 3. $x-2-\frac{2}{x+6}$ 4. $x^2+3x+15+\frac{36}{x-3}$ 5. x^2-2x+4
6. $9x^2-12x+16$ 7. $p-4+\frac{5}{p+8}$ 8. $x+8-\frac{3}{x+3}$ 9. $2x+5$ 10. $3y^2+6y+8+\frac{37}{2y-4}$
11. $x^3+2x^2+4x+6+\frac{17}{x-2}$ 12. $3x^2+x+4+\frac{7}{x+1}$ 13. y^2-y+1 14. r^3-2r^2+4r-8
15. x^2+2x+3

6.6 Form III

1. $x-2+\frac{12}{5x-2}$ 2. $2y^2-7y+4$ 3. y^3-6 4. a^2+5 5. $y^3+3y^2+3y+9+\frac{36}{y-3}$
6. y^2-3y+1 7. x^3-2x^2+x-6 8. $x^2-3x+2+\frac{4}{x+3}$ 9. x^2+1 10. y^3-1
11. x^2-x+1 12. $2x^2-4x+2+\frac{17}{3x+2}$ 13. $x^2+4x+16$ 14. a^2-a+1
15. $-5x^2+5x+4+\frac{18}{-3x+2}$

6.7 Form I

1. $-\frac{1}{9}$ 2. $\frac{5}{6}$ 3. $\frac{16}{27}$ 4. $\frac{x^2}{2}$ 5. $\frac{1}{x^5}$ 6. $\frac{2}{x}$ 7. $\frac{6}{5p^6}$ 8. $\frac{x^4}{y^{10}}$ 9. $8x^2$ 10. 1250
11. 0.03957 12. 0.00020351 13. 4.7 14. 3.418×10^1 15. 1.9×10^4 16. 1.4×10^{-3}
17. 3×10^2 18. 2×10^{-1} 19. 9×10^4 20. 2.51×10^{-7}

6.7 Form II

1. $-\frac{1}{16}$ 2. $\frac{16}{23}$ 3. $\frac{25}{16}$ 4. $\frac{x^3}{3}$ 5. $\frac{1}{x^2}$ 6. $\frac{2}{x^4}$ 7. $\frac{5}{2p^{10}}$ 8. $\frac{x^2}{y^{12}}$ 9. $\frac{27}{x^3}$
10. 11,800,000 11. 0.000736 12. 0.00000010483 13. 4.48 14. 6.9735×10^2
15. 6.5×10^7 16. 7.948×10^{-5} 17. 4×10^{-3} 18. 8×10^{-3} 19. 4×10^6 20. 8.96×10^{-8}

6.7 Form III

1. $-\frac{1}{216}$ 2. $\frac{19}{88}$ 3. $\frac{343}{125}$ 4. $\frac{x^6}{8}$ 5. $\frac{1}{x^2}$ 6. $\frac{6}{x^4}$ 7. $\frac{7}{3p^{11}}$ 8. $\frac{x^6}{y^8}$ 9. $125x^6$ 10. 30500
11. 0.00918 12. 0.000000011936 13. 5.7 14. 1.0457×10^3 15. 2.9×10^{10} 16. 5.7×10^{-6}
17. 4×10^{-2} 18. 1.8×10^3 19. 6.25×10^{-10} 20. 7.7×10^{-7}