Algebra 2 Honors – Summer Packet – Answer Sheet

Factoring

1. $2w(2w + 1)$
2. $3(3x^2 + x – 6)$
3. $5(3x^2 + 5x + 20)$
4. $6(2x^2 + x + 3)$
5. $4(x^2 + 5x – 3)$
6. $-2x(x – 5)$
7. $x(x^3 + 2x^2 + 1)$
8. $3x^2y^3(4 + 5x^2y^4 – 8x^4y)$
9. $y^6z^2(x^5 + a^3y^3z^3 + w^9y^4z^4)$
10. $-5x^3(8x^7 – 5y^3)$

Type II Factoring

1. $(x + 4)(x + 2)$
2. $(x + 8)(x + 4)$
3. $(x + 10)(x + 4)$
4. $(x + 7)(x + 1)$
5. $(x + 9)(x + 2)$
6. $(x – 4)(x – 2)$
7. $(x – 4)(x – 3)$
8. $(x – 8)(x – 3)$
9. $(x – 9)(x – 8)$
10. $(x – 3)(x – 11)$
11. $(x – 7)(x – 6)$
12. $(x – 16)(x + 2)$
13. $(x + 5)(x – 2)$
14. $(x + 5)(x – 1)$
15. $(x + 7)(x – 4)$
16. $(x – 4)(x + 3)$
17. $(x – 15)(x + 1)$
18. $2(x + 9)(x – 3)$
19. $3(x – 4)(x + 3)$

Difference of Squares

1. $(x + 2)(x – 2)$
2. $(x + 3)(x – 3)$
3. $(x + 10)(x – 10)$
4. $(x + 9)(x – 9)$
5. $(x + 6)(x – 6)$
6. $(x + 11)(x – 11)$
7.
8. $3(x + 3)(x – 3)$
9. $5(x + 5)(x – 5)$
10. $(x^2 + 4)(x + 2)(x - 2)$
11. $8(x + 2)(x – 2)$
12. $(3x + 4y)(3x – 4y)$
13. $(5x + 6y)(5x – 6y)$
14. $(x + 9y)(x – 9y)$

Factoring $ax^2 + bx + c$

1. $(2x – 1)(2x + 3)$
2. $(3a – 4)(a + 1)$
3. $(3a + 4)(3a + 2)$
4. $(5y + 4)(2y + 3)$
5. $(5x + 3)(3x – 1)$
6. $(3y – 2)(2y + 1)$
7. $(3x + 5)(2x – 5)$
8. $2(4y – 1)(3y – 5)$
9. $(7x + 3)(3x + 4)$
10. $6(3x – 4)(x + 1)$
11. $(3x + 4)(3x + 1)$
12. $(5y + 2)(3y – 5)$
13. $(24x + 1)(x – 2)$
14. $(5a – 2)(4a – 3)$
15. $2(3x + 7)(2x + 1)$

Exponents

1. x^9
2. y^{15}
3. x^5y^5
4. $2^5 = 32$

1. $a^{15}b^{20}$
2. 81
3. $8a^3b^6c^{18}$
4. $-64a^{18}b^3c^{12}$

1. x^6
2. x
3. xy^6
4. $\frac{a^2b^5c^8}{2}$
5. $\frac{8x^9z^2}{7}$
6. $\frac{-12xy^{15}z^{10}}{5}$

1. $\frac{9}{16}$
2. $\frac{4a^4}{9b^6}$
3. $\frac{8b^6}{a^9}$

1. 1
2. 1
3. 1
4. 2

1. $\frac{1}{x^2}$
2. $\frac{1}{64y^3}$
3. $\frac{3}{a^2}$
4. $\frac{x}{9abc}$
5. $\frac{1}{589824x^4y^6}$
6. $\frac{x^9y^9z^6}{12}$

1. $\frac{z^8}{3x^8y^2}$
2. $9x^3y^{11}$
3. $\frac{x^{18}y^6}{9z^6}$
4. $\frac{-16}{a^{11}b^6}$
5. $\frac{m^3n^3}{-384}$
6. $\frac{62500c^{10}}{a^{14}b^{40}}$

Radicals

1. $2\sqrt{2}$
2. $2\sqrt{7}$
3. $4\sqrt{3}$
4. $2\sqrt{6}$
5. $6\sqrt{2}$
6. $2\sqrt{3}$
7. $7\sqrt{2}$
8. $3\sqrt{7}$
9. $10\sqrt{3}$

10. $5\sqrt{5}$
11. $3\sqrt{5}$
12. $2\sqrt{10}$

Multiplying Radicals

1. $\sqrt{10}$
2. $2\sqrt{3}$
3. 3
4. $4\sqrt{2}$
5. $6\sqrt{6}$
6. 60
7. $2\sqrt{21}$
8. $9\sqrt{2}$
9. $16\sqrt{6}$
10. 72
11. $14\sqrt{14}$
12. $24\sqrt{33}$

Dividing with Radicals

1. $\frac{2\sqrt{3}}{3}$
2. $\frac{\sqrt{5}}{5}$
3. $2\sqrt{2}$
4. $\frac{\sqrt{10}}{2}$
5. $\frac{\sqrt{2}}{2}$
6. $\frac{2\sqrt{35}}{5}$
7. $\frac{\sqrt{33}}{2}$
8. 9

Mult. and simplify

1. $2\sqrt{3}$
2. $5\sqrt{2}$
3. 6
4. $\sqrt{35}$
5. $3\sqrt{2}$
6. $10\sqrt{21}$
7. $28\sqrt{30}$
8. $20\sqrt{5}$
9. $70\sqrt{6}$
10. $4\sqrt{15}$
11. $6\sqrt{11}$
12. $30\sqrt{3}$
13. $60\sqrt{6}$
14. 48
15. $\frac{\sqrt{7}}{7}$
16. $\frac{3\sqrt{5}}{5}$
17. $2\sqrt{6}$
18. $\frac{10\sqrt{3}}{3}$
19. 2
20. $\frac{\sqrt{15}}{3}$
21. $\frac{\sqrt{5}}{5}$
22. $\sqrt{10}$
23. $3\sqrt{20}$
24. $\frac{\sqrt{6}}{4}$
25. $\frac{\sqrt{30}}{3}$
26. $\frac{3\sqrt{3}}{8}$

Slope

1. $\frac{-2}{3}$
2. $\frac{4}{3}$
3. $\frac{7}{5}$
4. 1
5. 0
6. $\frac{-3}{2}$
7. 0
8. No slope; undefined
9. L_1 = 2; L_2 = 2; Yes
10. $P_1 = \frac{7}{3}$; $P_2 = \frac{-3}{7}$; Perpendicular
11. D

Equation of Lines

11. y = -3x + 11
12. y = $\frac{-1}{8}x + \frac{11}{8}$
13. y = $\frac{-1}{4}x + \frac{17}{4}$
14. y = $\frac{-8}{5}x - \frac{1}{5}$
15. y = -4x + 13
16. y = -5x + 15
17. y = 6x – 10
18. y = $\frac{2}{5}x - \frac{21}{5}$
19. y = -3
20. y = -x – 4
21. y = -3x – 1
22. y = $\frac{-4}{3}x - 1$
23. y = $\frac{-2}{5}x$
24. y = $\frac{2}{3}x - 2$