Algebra
Second Packet with online option

Students and Parents,

I have listed the days and topics in the following chart with both a worksheet and online option. The worksheets will be posted with this on google classroom and it will also be available at the middle school office. Some online options in bold are from khanacademy. Additional resources for these topics can be found on connected.mcgrawhill.com.

In case you need to add the book to the connected site the redemption code for the Algebra book is 6JT2-OE6G-11MQ.

When you finish a worksheet you may scan it or take a picture of it and email it to me so I Can grade it.

Khan Academy Class Code: 5WXBHYSW

Woot Math Class Code: 7BJ87P and then click to sign in with Google to use your school gmail account

Choose one option below for each day

Day	Topic from packet	Pages to be read in your book	Online Option	Worksheet Option
4/13	8-1 Adding & Subtracting Polynomials	Read the lesson on pages 465-467		
4/14	8-1 Adding & Subtracting Polynomials		Woot Math: *Polynomials, Vocabulary, Adding, Subtracting*	Skills Practice w/s
4/15	8-2 Multiplying a Polynomial by a Monomial	Read the lesson on pages 472-474		
4/16	8-2 Multiplying a Polynomial by a Monomial		Woot Math:*Multiplying a Polynomial by a Monomial*	Skills Practice w/s
4/17	8-3 Multiplying Polynomials	Read the lesson on pages 480-482		
4/20	8-3 Multiplying Polynomials		Woot: *Polynomials: Multiplication and Chaaracteristics*	Skills Practice w/s

4/21	8-4 Special Products	Read the lesson on pages 486-488	Khan Academy: Multiple videos with corresponding assignments	
4/22	8-4 Special Products		Khan Academy: Multiple videos with corresponding assignments	Skills Practice w/s
4/23	8-5 Using the Distributive Property	Read the lesson on pages 494-497	Khan Academy: Multiple videos with corresponding assignments	
4/24	8-5 Using the Distributive Property		Khan Academy: Multiple videos with corresponding assignments	Skills Practice w/s
4/27	8-6 Solving $x^2+bx+c=0$	Read the lesson on pages 503-506	Khan Academy: More examples of factoring quadratics as (x+a)(x+b)	
4/28	8-6 Solving $x^2+bx+c=0$		Woot: Factoring Quadratics when a=1	Skills Practice w/s
4/29	8-7 Solving $ax^2+bx+c=0$	Read the lesson on pages 510-512	Khan: Factoring Quadratics with a Common Factor (old)	
4/30	8-7 Solving $ax^2+bx+c=0$		Woot: Solve Quadratic Equations Using Factoring	Skills Practice w/s
After lessons 8.6 & 8.7	Review Quadratics		Khan: Strategy in factoring Quadratics (part 1 of 2) Strategy in factoring Quadratics (part of 2) Factoring Quadratics in Any Form	
5/1	8-8 Differences of Squares	Read the lesson on pages 516-518 *Review lesson 8-4 on page 488 *Product of a Sum and a Difference*	Khan: Difference of Squares Intro Factoring Difference of Squares Leading Coefficient ≠ 1	
5/4	8-8 Differences of Squares		Khan: Practice Difference	Skills Practice w/s

			of Squares Intro Practice Difference of Squares	
5/5	8-9 Perfect Squares	Read the lesson on pages 522-526	Khan: Perfect Square Factorization Intro Identifying Perfect Square Form Factoring Perfect Squares: Negative Common Factor	
5/6	8-9 Perfect Squares		Khan: Practice: Perfect Squares Intro Practice: Perfect Squares	Skills Practice w/s

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8-1 Skills Practice

Adding and Subtracting Polynomials

Find each sum or difference.

1. $(2x + 3y) + (4x + 9y)$

2. $(6s + 5t) + (4t + 8s)$

3. $(5a + 9b) - (2a + 4b)$

4. $(11m - 7n) - (2m + 6n)$

5. $(m^2 - m) + (2m + m^2)$

6. $(x^2 - 3x) - (2x^2 + 5x)$

7. $(d^2 - d + 5) - (2d + 5)$

8. $(2h^2 - 5h) + (7h - 3h^2)$

9. $(5f + g - 2) + (-2f + 3)$

10. $(6k^2 + 2k + 9) + (4k^2 - 5k)$

Determine whether each expression is a polynomial. If it is a polynomial, find the degree and determine whether it is a *monomial, binomial,* or *trinomial.*

11. $5mt + t^2$

12. $4by + 2b - by$

13. -32

14. $\frac{3x}{7}$

15. $5x^2 - 3x^{-4}$

16. $2c^2 + 8c + 9 - 3$

Write each polynomial in standard form. Identify the leading coefficient.

17. $3x + 1 + 2x^2$

18. $5x - 6 + 3x^2$

19. $9x^2 + 2 + x^3 + x$

20. $-3 + 3x^3 - x^2 + 4x$

21. $x^2 + 3x^3 + 27 - x$

22. $25 - x^3 + x$

23. $x - 3x^2 + 4 + 5x^3$

24. $x^2 + 64 - x + 7x^3$

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8-2 Skills Practice

Multiplying a Polynomial by a Monomial

Find each product.

1. $a(4a + 3)$

2. $-c(11c + 4)$

3. $x(2x - 5)$

4. $2y(y - 4)$

5. $-3n(n^2 + 2n)$

6. $4h(3h - 5)$

7. $3x(5x^2 - x + 4)$

8. $7c(5 - 2c^2 + c^3)$

9. $-4b(1 - 9b - 2b^2)$

10. $6y(-5 - y + 4y^2)$

11. $2m^2(2m^2 + 3m - 5)$

12. $-3n^2(-2n^2 + 3n + 4)$

Simplify each expression.

13. $w(3w + 2) + 5w$

14. $f(5f - 3) - 2f$

15. $-p(2p - 8) - 5p$

16. $y^2(-4y + 5) - 6y^2$

17. $2x(3x^2 + 4) - 3x^3$

18. $4a(5a^2 - 4) + 9a$

19. $4b(-5b - 3) - 2(b^2 - 7b - 4)$

20. $3m(3m + 6) - 3(m^2 + 4m + 1)$

Solve each equation.

21. $3(a + 2) + 5 = 2a + 4$

22. $2(4x + 2) - 8 = 4(x + 3)$

23. $5(y + 1) + 2 = 4(y + 2) - 6$

24. $4(b + 6) = 2(b + 5) + 2$

25. $6(m - 2) + 14 = 3(m + 2) - 10$

26. $3(c + 5) - 2 = 2(c + 6) + 2$

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8-3 Skills Practice
Multiplying Polynomials

Find each product.

1. $(m + 4)(m + 1)$

2. $(x + 2)(x + 2)$

3. $(b + 3)(b + 4)$

4. $(t + 4)(t - 3)$

5. $(r + 1)(r - 2)$

6. $(n - 5)(n + 1)$

7. $(3c + 1)(c - 2)$

8. $(2x - 6)(x + 3)$

9. $(d - 1)(5d - 4)$

10. $(2\ell + 5)(\ell - 4)$

11. $(3n - 7)(n + 3)$

12. $(q + 5)(5q - 1)$

13. $(3b + 3)(3b - 2)$

14. $(2m + 2)(3m - 3)$

15. $(4c + 1)(2c + 1)$

16. $(5a - 2)(2a - 3)$

17. $(4h - 2)(4h - 1)$

18. $(x - y)(2x - y)$

19. $(w + 4)(\ w^2 + 3w - 6)$

20. $(t + 1)(\ t^2 + 2t + 4)$

21. $(k - 4)(\ k^2 + 5k - 2)$

22. $(m + 3)(\ m^2 + 3m + 5)$

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8-4 Skills Practice
Special Products

Find each product.

1. $(n + 3)^2$
2. $(x + 4)(x + 4)$
3. $(y - 7)^2$
4. $(t - 3)(t - 3)$
5. $(b + 1)(b - 1)$
6. $(a - 5)(a + 5)$
7. $(p - 4)^2$
8. $(z + 3)(z - 3)$
9. $(\ell + 2)(\ell + 2)$
10. $(r - 1)(r - 1)$
11. $(3g + 2)(3g - 2)$
12. $(2m - 3)(2m + 3)$
13. $(6 + u)^2$
14. $(r + t)^2$
15. $(3q + 1)(3q - 1)$
16. $(c - d)^2$
17. $(2k - 2)^2$
18. $(w + 3h)^2$
19. $(3p - 4)(3p + 4)$
20. $(t + 2u)^2$
21. $(x - 4y)^2$
22. $(3b + 7)(3b - 7)$
23. $(3y - 3g)(3y + 3g)$
24. $(n^2 + r^2)^2$
25. $(2k + m^2)^2$
26. $(3t^2 - n)^2$

27. **GEOMETRY** The length of a rectangle is the sum of two whole numbers. The width of the rectangle is the difference of the same two whole numbers. Using these facts, write a verbal expression for the area of the rectangle.

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8-5 Skills Practice

Using the Distributive Property

Factor each polynomial.

1. $7x + 49$

2. $8m - 6$

3. $5a^2 - 15$

4. $10q - 25q^2$

5. $8ax - 56a$

6. $81r + 48rt$

7. $t^2h + 3t$

8. $a^2b^2 + a$

9. $x + x^2y + x^3y^2$

10. $3p^2r^2 + 6pr + p$

11. $4a^2b^2 + 16ab + 12a$

12. $10h^3n^3 - 2hn^2 + 14hn$

13. $x^2 + 3x + x + 3$

14. $b^2 - 2b + 3b - 6$

15. $2j^2 + 2j + 3j + 3$

16. $2a^2 - 4a + a - 2$

17. $6t^2 - 4t - 3t + 2$

18. $9x^2 - 3xy + 6x - 2y$

Solve each equation. Check your solutions.

19. $x(x - 8) = 0$

20. $b(b + 12) = 0$

21. $(m - 3)(m + 5) = 0$

22. $(a - 9)(2a + 1) = 0$

23. $x^2 - 5x = 0$

24. $y^2 + 3y = 0$

25. $3a^2 = 6a$

26. $2x^2 = 3x$

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8-6 Skills Practice

Solving $x^2 + bx + c = 0$

Factor each polynomial.

1. $t^2 + 8t + 12$

2. $n^2 + 7n + 12$

3. $p^2 + 9p + 20$

4. $h^2 + 9h + 18$

5. $n^2 + 3n - 18$

6. $x^2 + 2x - 8$

7. $y^2 - 5y - 6$

8. $g^2 + 3g - 10$

9. $r^2 + 4r - 12$

10. $x^2 - x - 12$

11. $w^2 - w - 6$

12. $y^2 - 6y + 8$

13. $x^2 - 8x + 15$

14. $b^2 - 9b + 8$

15. $t^2 - 15t + 56$

16. $-4 - 3m + m^2$

Solve each equation. Check the solutions.

17. $x^2 - 6x + 8 = 0$

18. $b^2 - 7b + 12 = 0$

19. $m^2 + 5m + 6 = 0$

20. $d^2 + 7d + 10 = 0$

21. $y^2 - 2y - 24 = 0$

22. $p^2 - 3p = 18$

23. $h^2 + 2h = 35$

24. $a^2 + 14a = -45$

25. $n^2 - 36 = 5n$

26. $w^2 + 30 = 11w$

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8-7 Skills Practice

Solving $ax^2 + bx + c = 0$

Factor each polynomial, if possible. If the polynomial cannot be factored using integers, write *prime*.

1. $2x^2 + 5x + 2$

2. $3n^2 + 5n + 2$

3. $2t^2 + 9t - 5$

4. $3g^2 - 7g + 2$

5. $2t^2 - 11t + 15$

6. $2x^2 + 3x - 6$

7. $2y^2 + y - 1$

8. $4h^2 + 8h - 5$

9. $4x^2 - 3x - 3$

10. $4b^2 + 15b - 4$

11. $9p^2 + 6p - 8$

12. $6q^2 - 13q + 6$

13. $3a^2 + 30a + 63$

14. $10w^2 - 19w - 15$

Solve each equation. Check the solutions.

15. $2x^2 + 7x + 3 = 0$

16. $3w^2 + 14w + 8 = 0$

17. $3n^2 - 7n + 2 = 0$

18. $5d^2 - 22d + 8 = 0$

19. $6h^2 + 8h + 2 = 0$

20. $8p^2 - 16p = 10$

21. $9y^2 + 18y - 12 = 6y$

22. $4a^2 - 16a = -15$

23. $10b^2 - 15b = 8b - 12$

24. $6d^2 + 21d = 10d + 35$

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8-8 Skills Practice

Differences of Squares

Factor each polynomial, if possible. If the polynomial cannot be factored, write *prime*.

1. $a^2 - 4$

2. $n^2 - 64$

3. $1 - 49d^2$

4. $-16 + p^2$

5. $k^2 + 25$

6. $36 - 100w^2$

7. $t^2 - 81u^2$

8. $4h^2 - 25g^2$

9. $64m^2 - 9y^2$

10. $4c^2 - 5d^2$

11. $-49r^2 + 4t^2$

12. $8x^2 - 72p^2$

13. $20q^2 - 5r^2$

14. $32a^2 - 50b^2$

Solve each equation by factoring. Check the solutions.

15. $16x^2 - 9 = 0$

16. $25p^2 - 16 = 0$

17. $36q^2 - 49 = 0$

18. $81 - 4b^2 = 0$

19. $16d^2 = 4$

20. $18a^2 = 8$

21. $n^2 - \frac{9}{25} = 0$

22. $k^2 - \frac{49}{64} = 0$

23. $\frac{1}{25}h^2 - 16 = 0$

24. $\frac{1}{16}y^2 = 81$

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8-9 Skills Practice

Perfect Squares

Determine whether each trinomial is a perfect square trinomial. Write *yes* or *no*. If so, factor it.

1. $m^2 - 6m + 9$

2. $r^2 + 4r + 4$

3. $g^2 - 14g + 49$

4. $2w^2 - 4w + 9$

5. $4d^2 - 4d + 1$

6. $9n^2 + 30n + 25$

Factor each polynomial, if possible. If the polynomial cannot be factored, write *prime*.

7. $2x^2 - 72$

8. $6b^2 + 11b + 3$

9. $36t^2 - 24t + 4$

10. $4h^2 - 56$

11. $17a^2 - 24ab$

12. $q^2 - 14q + 36$

13. $y^2 + 24y + 144$

14. $6d^2 - 96$

Solve each equation. Check the solutions.

15. $x^2 - 18x + 81 = 0$

16. $4p^2 + 4p + 1 = 0$

17. $9g^2 - 12g + 4 = 0$

18. $y^2 - 16y + 64 = 81$

19. $4n^2 - 17 = 19$

20. $x^2 + 30x + 150 = -75$

21. $(k + 2)^2 = 16$

22. $(m - 4)^2 = 7$