

Students and Parents:

Algebra III/Trigonometry is designed to continue the study of mathematics for those students who have completed Algebra II. First semester is a more advanced study of the algebra skills and concepts taught in Algebra II, and continues the year with an introduction and advanced study of Trigonometry.

The summer packet reflects the skills and concepts that students should have a foundation on before entering Advanced Algebra.

To get ready for Algebra III/Trig, you will need to work on [Aleks.com](https://www.aleks.com) and the attached packet- have everything completed online and the packet ready to turn in on the first full day of class.

Online directions:

1. Log onto Aleks.com
2. Two of you need to finish Alg II. Once complete, you will be moved to ACT prep.
3. Work on ACT Prep Assignment (20 Topics)- Good Luck this Summer with testing.

Packet Directions:

This review packet should be completed before the first full day of school (Aug 08). You should show all your work and staple any scratch work to the back.

Look forward to seeing you in August.

Terri Sullivan
Teacher, Math Department

Trinity Presbyterian School

Write each expression without absolute value symbols.

1. $-|-5|$

2. $|3| - |-7|$

3. $|3| \cdot |-4|$

Evaluate when $x = 3$; $y = -2$; $z = 1$

4. $-y^3$

5. $2xyz$

6. $xy - z(x - y)^2$

7. $\frac{x^2 + y^2}{x + y}$

8. $\frac{3y}{x} - \frac{2z}{y}$

Evaluate each expression.

9. $\frac{1}{3^{-3}}$

10. $\frac{4^{-2}}{2^{-3}}$

11. $\left(\frac{2}{3}\right)^0$

12. $\frac{16a^7}{2a}$

13. $\frac{5x^4 y^{-3}}{10x^8}$

14. $(9xy^2)(-2x^2y^5)$

Evaluate each exponential expression.

15. $4^{\frac{3}{2}}$

16. $32^{\frac{-3}{5}}$

17. $(4a^{\frac{2}{3}}b^{\frac{1}{2}})(2a^{\frac{1}{3}}b^{\frac{3}{2}})$

Simplify

18. $\sqrt{75}$

19. $\sqrt{18x^2 y^5}$

20. $\sqrt[3]{16a^3 y^7}$

21. $\frac{2}{\sqrt{2}}$

22. $(3x^2 + 4x + 5) + (2x^2 + 7x - 2)$

$$23. (r^2 - 2r - 5) - (3r^2 - 5r + 7)$$

$$24. (4x - 5)(2x^2 + 7x - 8)$$

$$25. (2x + 4)(5x + 1)$$

$$26. (5x - 3)(2x + 7)$$

$$27. (4x + 6)(4x - 6)$$

$$28. (6x + 7y)^2$$

$$29. (3x^2 - y)^2$$

$$30. (3x + 5)(3x - 5)$$

Factor

$$31. 8x^2 + 12x - 40$$

$$32. 6a^3b^2 - 12a^2b + 72ab^3$$

$$33. x^2 + 7x + 12$$

$$34. a^2 - 10a - 24$$

$$35. 6x^2 + 25x + 4$$

$$36. x^2 - 9$$

$$37. 81b^2 - 16c^2$$

$$38. x^2 + 10x + 25$$

$$39. a^2 - 14a + 49$$

$$40. 6y^3 - 21y^2 - 4y + 14$$

Write the complex number in standard form.

$$41. \sqrt{-64}$$

$$42. \sqrt{-27}$$

$$43. (2 - 6i) + (4 - 7i)$$

$$44. (-2 - 4i) - (5 - 8i)$$

Evaluate

$$45. -x^2 - 5x + 4 \text{ for } x = -5$$

$$46. x^2 - 8x + 2 \text{ for } x = 4$$

47. $1 - x^5$ for $x = -2$

Simplify

48. $2 + 3(2x - 5)$

49. $7 - 2(5n - 8m)$

50. $5(4r - 7t) - 2(10r + 3t)$