Summer work for students entering Algebra II (332 and 338) Due: Friday,August 28, 2026

Name_____

This packet contains the topics you have learned in your previous courses that are most important to Algebra II. Please read the directions, do the problems (with all work shown).

Solve the following problems.

1. What is the product of -10 and +5?

2. Add: -10 + 5

3. What is the quotient of -16 and -4?

4. Subtract: -1 − -8

5. Calculate: |-6 × 2 + -4 × -3|

6. Simplify the following expressions:

a) $4x + 5 + 2x$

b) $-6x + 4z + -3x - 10z$

c) $10y - -2y - 3z - 9z - 6y$

d) $x^5 \times y^4 \times x^{-7} \times y^{10}$

e) $x^8 \div x^2$

f) $(4x)^3$

7. Solve the following equations for x:

a) $x - 2 = -7$

b) $x - -2 = -7$

c) $\frac{2}{3}x = 6$

d) $-2x + 5 = -11$

8. Solve the following inequalities.

a) $3x - 2 > -11$

b) $-5f < -10$

c) $2x + 5 > 12$

9. Add the following polynomials:

a) $9z^8 + 2z^5 + 4z^2 + 2$ and $5z^8 + -6z^5 + -4z^2 + -1z + -8$

b) $z^6 + 5z^4 + -10z^3 + -7$ and $-z^6 + 8z^4 + 4z^3 - 8$

10. Multiply the following polynomials and simplify

a) $4x^3(2x^2 + x - 5)$

b) $(4x + 3)(x - 5)$

11. Find the greatest common factor of the following expressions:

a) 15, 30

b) $15x^3$, $30x^2$

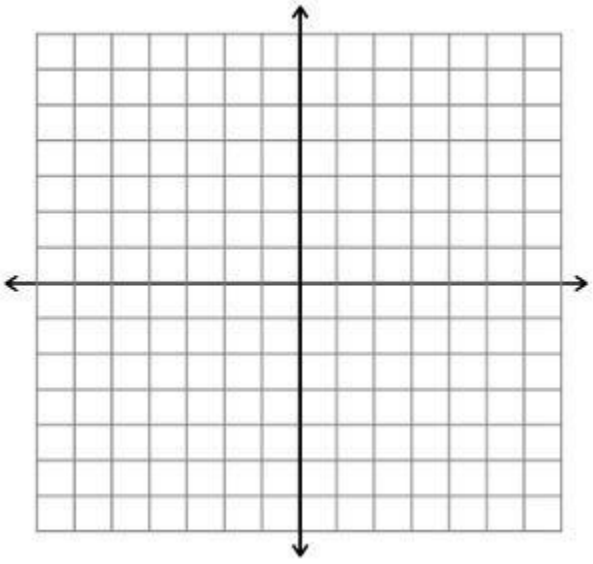
12. Factor the following polynomials

a) $12x^2 + 24x^3 + - 18x$

b) $x^2 - 3x - 18$

13. Graph both lines on the coordinate grid then solve the system of linear equations:

$x + y = 3$; $x - y = 1$



14. The sum of two consecutive even integers is 18. What are the integers?

Write an equation using a variable to express the math sentence then solve your equation.

Equation: _____

The integers are _____ and _____