



## REVIEW PACKET FOR INCOMING ALGEBRA I – PART II STUDENTS

This packet is designed to review essential Algebra 1 – Part I skills. This will prepare you for success in Algebra I – Part II as well as subsequent higher level math courses

The completion of this review packet is a requirement for all students entering Triton, Highland, or Timber Creek High Schools. This packet will count towards your homework grade and you **must** have it **completed** to receive full credit. If you don't understand something, do your best to complete the problem and then make a note in the margin as a reminder to ask the teacher for a better explanation when you are in class.

Bring this packet with you on the first day of class because it will be reviewed the first week of school and all problems will be explained. Then a test will be given after all problems have been reviewed.

Have a safe and enjoyable summer! Your teachers look forward to meeting you in September!

## ORDER OF OPERATIONS

Simplify each numerical expression.

1.  $18 + 20 \div 4$

2.  $\frac{6 \cdot 2 - 1}{9 + 2}$

3.  $(2.4 - 1.6) \div 0.4$

4.  $25 - [2(3 + 7)]$

5.  $(10 + 6) \div 2 - 3$

## EVALUATE

Evaluate each expression for  $x = 3$ ,  $y = -1$ , and  $z = 2$ .

6.  $2x + 3y + z$

7.  $-xyz$

8.  $-3x - 2z - 7$

9.  $-z^3 - 2z + z$

10.  $\frac{xy - 3z}{-5}$

## SOLVING ONE-STEP EQUATIONS

Solve each equation.

11.  $5n = -20$

12.  $t + 7 = 4$

13.  $\frac{r}{3} = 21$

14.  $u - 8 = -15$

15.  $-9 + m = 35$

## SOLVING MULTI-STEP EQUATIONS

Solve each equation.

16.  $8w + 2 = 6$

17.  $-x + 7x = 24$

18.  $-(3 - 10y) = 12$

19.  $1 = z + 3(z - 1)$

20.  $-6m - 1 = 2m$

21.  $8p - 4 = 4(2p - 1)$

## SOLVING INEQUALITIES

Solve each inequality. Graph the solution on a number line.

22.  $8 + u > 4$

23.  $-5 + 4g \leq 3$

24.  $5w \geq -6w + 11$

25.  $3n \geq -3$  or  $-5n > 25$

26.  $9 \leq 6 - b < 12$

## SLOPE-INTERCEPT FORM

Find the slope of the line passing through each pair of points.

27.  $(-8, 0)$  and  $(1, 5)$

28.  $(4, -1)$  and  $(4, 7)$

29.  $(8, 3)$  and  $(-4, 3)$

Identify the slope and y-intercept of each equation.

30.  $y = -\frac{3}{4}x - 5$

31.  $y = 3$

32.  $2x = y + 7$

Write an equation of a line in slope-intercept form with the given information.

33.  $m = -7, b = 0.5$

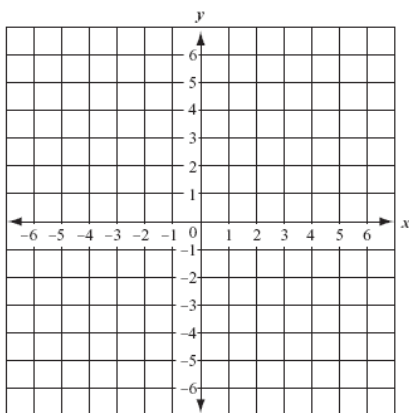
34.  $(0, 7)$  and  $(1, 5)$

35.  $m = -5, (9, 0)$

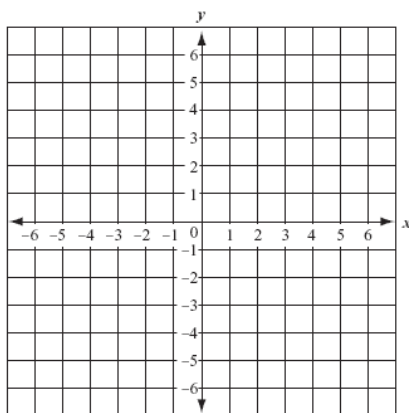
## GRAPHING AN EQUATION

Graph each equation.

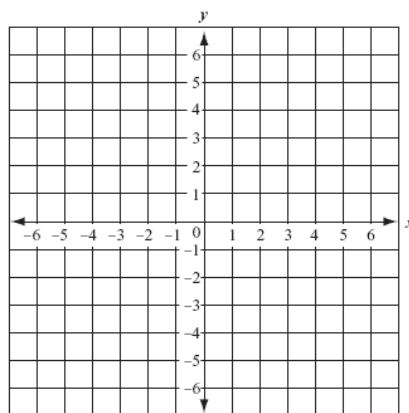
36.  $y = -x + 3$



37.  $y = 2x - 1$



38.  $y = -\frac{2}{3}x$



## FUNCTIONS

Find the range of each function when the domain is  $\{-1, 0, 6\}$ .

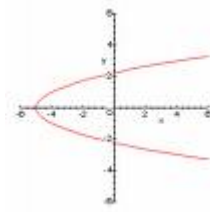
39.  $f(x) = \frac{1}{2}x + 110$

40.  $g(x) = x^2 + 1$

41.  $f(t) = 4t - 7$

**Determine if each relation is a function and explain your answer.**

42.  $\{(5, 0), (3, -1), (0, 0), (5, -1), (4, -2)\}$       43.



## POLYNOMIALS

**Write each polynomial in standard form.**

44.  $6 - 3x - 7x^2$

45.  $-10 + 4q^4 - 8q + 3q^2$

46.  $4x - 3x^2$

**Simplify. Write each answer in standard form.**

47.  $(3 - 2x + 3x^2) + (7 + 6x - 2x^2)$

48.  $(3x^3 - 3x^2 - x - 1) - (3x^2 - 6x)$

**Find each product. Write each answer in standard form.**

49.  $m(5m^2 + 6m)$

50.  $-3a(4a^2 - 5a + 9)$

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

**Find the greatest common factor (GCF) for each polynomial.**

52.  $56x^4 - 32x^3 - 72x^2$

53.  $x^3 + 7x^2 - 5x$

54.  $6a^2 - 8a$

**Factor each polynomial using the GCF.**

55.  $10r^2 - 25r + 20$

56.  $15k^3 + 3k^2 - 12k$

57.  $6m^6 - 24m$

**Find each product.**

58.  $(6x + 1)(2x - 3)$

59.  $(x - 3)(2x^2 + 3x + 3)$

**Factor each trinomial.**

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

61.  $a^2 - 5a + 6$

62.  $c^2 + 2c + 1$

63.  $d^2 - 9d + 14$

64.  $w^2 - 2w - 24$

65.  $r^2 + 6r - 16$