

**Red Bank Catholic High School**  
**ACP Algebra 1 Summer Packet**

Work should be shown. Students will be tested on all material in September

1. List the prime factors of 28.
2. What is the average (arithmetic mean) of 34, 43, 17 and 67?
3. Change 8.75% to a decimal.
4. What is the reciprocal of  $\frac{4}{7}$ ?

Simplify the following numerical expressions. Remember to follow order of operations.

5.  $7 + 30 \div 10$

6.  $12 + 6 \div 2 \cdot 5 - 21$

7.  $6(6 + 5) + 8$

8.  $14 \div 7 + 3^2$

9.  $-2 + 11 - 7$

10.  $5 - 3 + 12 - (-9)$

11.  $-4 - 9 - 3(-6)$

12.  $(-2)(4)(-5)(-1)$

13.  $\left(\frac{3}{5}\right)\left(-\frac{7}{12}\right)$

14.  $\frac{-4}{\left(\frac{3}{4}\right)}$

15.  $-\frac{3}{4} + \frac{1}{6}$

16.  $-1^3$

17.  $-5^2$

18.  $(-8)^2$

Round the following numbers:

19. 458.925 to the nearest tenths

20. 0.2851 to the nearest hundredths

21. 135.29 to the nearest whole number

Solve the following equations.

22.  $x + 3 = 11$

23.  $x - 10 = -9$

24.  $16 - x = 9$

25.  $7x = 63$

26.  $\frac{48}{x} = -3$

27.  $-21 = x - 47$

28.  $-6x = 66$

29.  $8x - 4x = 24$

30.  $-110 = 12y + 10y$

31.  $-4(9g) = 252$

32.  $150 = 6(5h)$

33.  $-3 = \frac{z}{(6+11)}$

34.  $\frac{w}{7} = 6 - (-3)$

35.  $\frac{x}{-4} = -9$

$$36. x + 4.7 = 2.4$$

$$37. y - 6.91 = -2.26$$

$$38. 8w = 75.2$$

$$39. \frac{r}{0.4} = 0.8$$

$$40. 6 = \frac{a}{4} + 2$$

$$41. \frac{x+9}{3} = 8$$

$$42. -1 = \frac{5+x}{6}$$

$$43. -2 = 2 + \frac{v}{4}$$

$$44. p - 1 = 5p + 3p - 8$$

$$45. p - 4 = -9 + p$$

$$46. \frac{10}{8} = \frac{n}{10}$$

$$47. \frac{7}{b+5} = \frac{10}{5}$$

$$48. -5(1 - 5x) + 5(-8x - 2) = -4x - 8x$$

$$49. \frac{5}{6} = \frac{7n+9}{9}$$

$$50. -3(4x + 3) + 4(6x + 1) = 43$$

Evaluate the following expressions. Always use order of operations.

$$51. 3(n - 1) + 2n, \text{ when } n = 5$$

$$52. 7b - 2a, \text{ when } a = -3 \text{ and } b = 4$$

53.  $3x^2 + 5x + 1$ , when  $x = -2$

54.  $\frac{2r}{t} + 7$ , when  $r = 12$  and  $t = 3$

55.  $4(3d + 6) - 2d$ , when  $d = -6$