

Red Bank Catholic High School
Honors 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. $3(n - 1) + 2n$, when $n = 5$

52. $7b - 2a$, when $a = -3$ 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 $d = -6$

Solve.

56. Judy's heart beats 70 times a minute. At this rate, how many times does her heart beat in an hour?

57. A group of 9 friends take a white water rafting trip. The total price of the trip before any discounts is \$810. Each person in the group receives a student discount. The total price after the discount is \$729. How much is the discount per person?

58. A train consisting of 50 cars and one locomotive weighs a total of 4725 tons. The locomotive weighs 125 tons. All of the cars have the same weight. Find the weight (in tons) of one car.

59. Your class has raised \$755 for a hunger relief organization. The organization provides farm animals that people can use to produce food. Your class plans to buy animals for a family recovering from an earthquake.

a. One heifer (a young cow) costs \$500, and each flock of chicks cost \$20. If your class buys one heifer, how many flocks of chicks can your class buy?

b. Your class can also buy pigs for \$120. If your class buys 1 heifer for \$500, how many pigs can your class buy?

c. If your class decides to buy the heifer and pigs as described in (b), does your class have enough money to also buy a flock of chicks?

60. In 1988, Stacy Allison became the first woman from the United States to reach the summit of Mount Everest, which is 29,035 feet high. One year earlier, she and a team of Americans had attempted to climb Mount Everest but were forced to turn back at an altitude of 26,000 feet due to severe storms. How close to the summit did Stacy Allison get in her first attempt?