1. Round 5,972,183 to the nearest
   a) million
   b) hundred thousand
   c) hundred
2. The weights of 5 people (in pounds) are 163, 140, 213, 112, 152. Find the median weight.
3. Write an estimate of each of the numbers below, and estimate the sum:
   521,436 estimate: 89,725 estimate: + 11 estimate: (don't add exactly)
4. Solve for x: 32 + x = 60
5. Find the perimeter of the object:

6. Estimate the product:
   27,944 X 109,382
7. Find the value of the exponent: 3^4
8. A parking lot has 11 rows and with 20 cars in each row. How many cars can be parked in the lot?
9. Find the quotients:
   a) 0 ÷ 22
   b) $\frac{17}{0}$
10. Write "yes" or "no" after each of the following to determine its divisibility.
    Is 7206 a) divisible by 2? b) divisible by 3? c) divisible by 5?
11. Simplify: $3 + 4[20 - (8 - 5)^2]$
12. Simplify: $\frac{12 + 2^3}{5 - \sqrt{9}}$
13. For the numbers: 16, 40, 17, 23
   a) Find the median
   b) Find the arithmetic mean (average)
14. A room is 16 ft. X 30 ft. How much baseboard must be used to cover the edges of the room?
15. A room is 16 ft. X 30 ft. How much carpet is needed to cover the floor?
16. A park (below) is covered with grass, with a square in the center covered with cement. How much grass is needed?

17. What is the volume of a swimming pool 10 ft. wide, 20 ft. long, and 4 ft. deep?
18. What is the area of the parallelogram with base = 22 cm, height = 14 cm?
19. The following transactions are made to a bank account with a starting balance of $360: withdraw $80, withdraw $200, deposit $70. What is the final balance in the account?
20. Write > or < between each pair of numbers to express each inequality:
   a) 27 18
   b) -41 -9
21. Find each of the following absolute values:
   a) |\-36|
   b) |7|
   c) |0|
22. Find the following:
   a) additive inverse of -36
   b) opposite of 7
   c) - 0
23. Simplify: \(-(-(-(-11)))\)
24. Simplify: 18 + (-27)
25. Simplify: -50 - (-61)
26. Simplify: -52 + 31 + (-20) + 9
27. Solve: -26 + x = -12
28. On a space station, the morning temperature is -84°F. If the temperature increases 22°F in the afternoon, what is the final temperature?
29. A store has monthly costs of $900 for rent and $400 to purchase used clothes. The store has a monthly revenue of $1500 from reselling the clothes.
   a) Is the store operating at a profit or a loss?
   b) What is the net profit or loss each month?
30. Simplify: \((-2)(-3)(4)(-5)\)
31. Simplify: \(-\frac{42}{-7}\)
32. A debt of $120,000 is shared among 6 business partners. How much does each person owe?
33. Find the square roots of 49.
34. Find a)\(\sqrt{36}\) b) \(-\sqrt{100}\)
35. How much current flows through a circuit if the voltage is 120 volts and the resistance is 40 ohms?
1. Evaluate the expression \(3x^2 - 2x + 6\) for \(x = 4\).

2. Evaluate the expression for \(a = 8\) and \(b = 10\): \(7a - \frac{b^2}{2}\)

3. Simplify: \(7x - 28y + 4z - 9x + 22z + 14x\)

4. Simplify: \((8a + 45b) - (15a + 37b)\)

5. Simplify: \((3x^2 + 18x + 11) + (x^2 - 13x + 21)\)

6. Simplify: \((y)(y^4)(y^5)\)

7. Simplify: \((p^5)^7\)

8. Simplify: \((2s^2)(4st)(5t^3)\)

9. Simplify: \((87)^0\)

10. Simplify: \(2xy(3x - 4y + 7)\)

11. Divide: \(\frac{28x^3y^2z - 7x^2yz}{4a}\)

12. Divide: \(28a^3b - 40a^2c - 32abc\)

13. Multiply: \((2x + 1)(x + 3)\)

14. Multiply: \((5b - 7)(5b + 7)\)

15. Is 153 prime or composite? If composite, give at least one factor other than itself or 1.

16. List all the factors of 90.

17. Show the prime factorization of 144.

18. Find the greatest common factor of 60 and 75.

19. Find the unknown factor: \(4x(\ ?\ ) = 24x^2y\)

20. Find the unknown factor: \(5y^2(\ ?\ ) = 25xy^2 - 10y^2\)

21. Find the surface area of a box whose dimensions are 3 in. X 6 in. X 8 in.

22. A snack stand sells drinks for $3 and sandwiches for $5. If the cost of ingredients is $1 for drinks and $2 for sandwiches, and \(D = \) drinks sold and \(S = \) sandwiches sold
   a. Write an equation representing the cost
   b. Write an equation representing the revenue
   c. Write an equation representing the net
   d. What is the net if 12 drinks and 8 sandwiches are sold?

23. Is \(x = -8\) a solution of the equation \(6x + 7 = -48\)?

24. Is \(b = -1\) a solution of the equation \(b^2 = 5b + 6\)?

25. Solve: \(48 = 12y\)

26. Solve \(y/6 = 12\)

27. Solve: \(15 + 6x = 57\)

28. Solve: \(2t + 4 + 3t = 49\)

29. Solve: \(8 + 3(h - 5) = 2(5h + 1) - 6h\)

30. Translate to algebra and solve: The quotient of a number and 3 equals 7.

31. Translate to algebra and solve: 12 less than the product of a number and 5 is 48.

32. Translate to algebra and solve: 6 times the sum of a number and 9 yields 12.

33. An isosceles triangle has equal sides that are twice as long as the base. If the perimeter is 35 inches, how long is each side?

34. Tickets to a school play cost $8 for adults and $5 for children. If 10 tickets are sold for $68, how many of each ticket is sold?
Answers

1. 46  
2. 6  
3. 25x - 28y + 26z  
4. -7a + 8b  
5. 4x^2 + 5x + 32  
6. 4x^2  
7. 14  
8. 40 ÷ 3  
9. 1  
10. 6x^2y - 8xy^2 + 14xy  
11. 4x^2  
12. 7a^2 - 10ac - 8bc  
13. 2x^2 + 7x + 3  
14. 25b^2 - 49  
15. composite - 3 is a factor  
16. 1, 2, 3, 5, 6, 9, 10, 15, 30, 45, 90  
17. 2, 3, 6, 9  
18. GCF = 15  
19. 6xy  
20. 5x - 2  
21. 180 m^2  
22. a) C = D + 25  
   b) R = 3D + 5S  
   c) W = 2D + 3S  
   d) N = $48  
23. no  
24. yes  
25. y = 4  
26. y = 72
1. A class has 19 male and 23 female students.  a) What fraction are male?  b) What fraction are female?
2. Write >, <, or = to make a true statement
   a. 4/15 ? 6/17
   b. -9/12 ? -15/20
3. Circle the improper fractions in this list:
   -9/4, -3/11, 6/6, 4/6, 8/5, -147/148, -149/148
4. Change -271/11 to a mixed number.
5. Change 16²/₅ to an improper fraction.
6. Reduce: -32/80
7. Reduce: -243xy/54x²y
8. Simplify: -48x/10, 60/27y
9. Simplify: 24/49 + 6/7
10. Estimate, then multiply 20(7/8)
11. Estimate, then divide 5²/₃ by 2¹/₈
12. Simplify: (-2/5)³
13. Simplify: (t⁵/s²y⁴)³
14. Jim made 60 phone calls, and 48 were in-state. Of the in-state calls, 1/3 were to his parents.  a) What fraction of calls were in-state?  b) What fraction of all calls were to his parents?  c) How many calls were made to his parents?
15. A recipe calls for 2¹/₃ cups of sugar.  How much sugar should be used for making half of the recipe?
16. Write in lowest terms: x²y⁴/18z³ + 10x²/12z
17. Simplify: 25/49
18. Solve: y/12 = -3/20
19. Find the least common multiple of 24, 36 and 40.
20. Build the fraction to the new denominator: \( \frac{3y}{4} = \frac{?}{20xy} \)

21. Write equivalent expressions with the LCD: \( \frac{1}{14} t^2 \) and \( \frac{2}{21} t^3 \)

22. Add: \( \frac{-7}{9} + \frac{5}{6} \)

23. Add: \( 7\frac{3}{5} + 4\frac{1}{4} \)

24. Simplify: \( \frac{5x}{18} - \frac{-7x}{18} \)

25. Simplify: \( \frac{-7}{27} - \frac{11}{45} \)

26. Evaluate \( \frac{3}{4} a - \frac{2}{5} b \) if \( a = \frac{8}{9} \) and \( b = \frac{5}{4} \).

27. Three runners were able to run \( \frac{3}{4} \) mile, \( \frac{7}{8} \) mile and \( 1\frac{3}{8} \) mile. What was the average distance run?

28. Evaluate \( A = p + p r t \) for \( p = 1000 \), \( r = \frac{9}{100} \) and \( t = \frac{1}{3} \)

29. Solve: \( \frac{3x}{11} - \frac{4}{11} = \frac{8}{11} \)

30. Solve: \( \frac{4y}{5} = \frac{8}{9} \)

31. Solve: \( \frac{4}{15} + \frac{1}{9} = \frac{3x}{5} \)

32. Ana’s first 4 test scores are 84, 62, and 85, and 81. What must she score on the next test to earn a “B” average?

33. Ed’s salary is \( \frac{7}{8} \) of last year’s salary. If he received a pay cut of $3000, what was his salary last year and this year?