

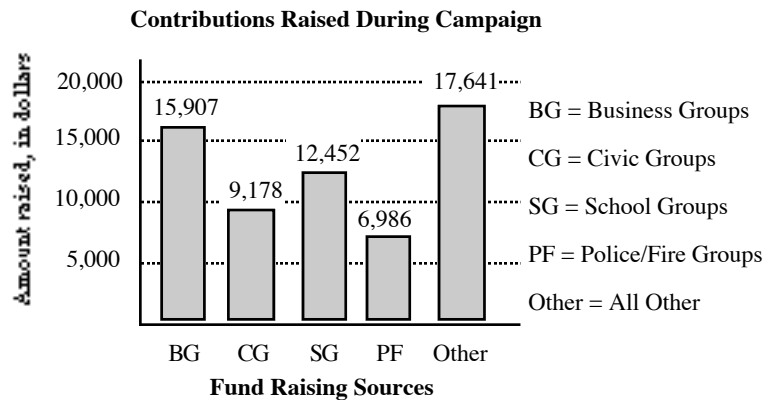
# Midterm Review: Chapters 1-4

- Total 2005 home game attendance for the Cleveland Indians was 1,973,185. Round this to the nearest
  - ten thousand
  - hundred thousand
- Which property is being demonstrated?
  - $5 = 5 + 0$
  - $9 \cdot 8 = 8 \cdot 9$

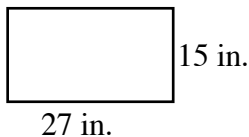
Based on the bar graph, at right, answer each question with a sentence.

During her campaign for mayor, Alexis Bohler raised both small and large contributions

- How much more did Ms. Bohler receive from business groups than from police/fire groups?



- How much in total contributions did Ms. Bohler receive?
- Find the area of this rectangle.
- Expand  $3^4$  and find its value.



- The 48 employees of Miller, Inc. pooled their money and bought a lot of lottery tickets. They didn't win the big prize, but they won a number of smaller prizes totaling \$7,296. If the winnings are divided evenly, how much will each employee receive?

8. Of the following, determine which are prime, which are composite, and which are neither.

2, 9, 42, 43, 1, 115

*Of the first three prime numbers—2, 3, and 5—which are factors of the following? Use the divisibility tests for 2, 3, and 5.*

9. 170

10. 528

*Determine if 9 is a factor of each number. Verify the answer by dividing the number by 9.*

11. 618

*Find the prime factorization of the following. Write the answer two ways: with and without exponents.*

12. 108

13. Evaluate  $24 \div x - y$ ; by replacing  $x$  with 6 and  $y$  with 2.

*Evaluate each expression.*

14.  $-9 - 15 + 17 - (-4)$

15.  $5 \cdot (-2) \cdot (-7) \cdot (-3)$

16.  $-49 \div (-7)$

17.  $-32 \div 4$

*Evaluate each expression using the order of operations. Show all steps.*

18.  $\sqrt{16} - 9$

19.  $|3 - 5| + |-8|$

Find the equivalent temperature in either Celsius or Fahrenheit.

$$F = 9 \cdot \frac{C}{5} + 32 \quad C = 5 \cdot \frac{F - 32}{9}$$

20. The temperature is  $-10^{\circ}$  C.

21. The temperature is  $5^{\circ}$  F.

Simplify by combining like terms wherever possible.

22.  $-10y - 5y + 9y$

23.  $-5p^3 - 8p + p^3 - (-4p)$

Find the product.

24.  $-9(-4k)$

Rewrite this expression using the Distributive Property.

25.  $-2(8m - 15)$

Solve. Be sure to check each answer.

26.  $7y - 35 = 28$

27.  $3y - 6 = 7y + 14$

Translate the sentence into an equation and solve.  
Write a sentence that answers the question.

28. 7 more than twice a number is -15.  
What is the number?

*For each problem, set up the legend, draw a diagram, identify the formula, and write and solve the equation. Be sure to write the answer as a sentence.*

- 29.** Two photocopiers were used to create 350 copies of a brochure. If the older machine created 80 less copies than the newer machine, how many brochures did each copier create?

- 30.** The perimeter of a triangle is 53 inches. The first side is 18 inches, and the second side is 7 inches less than twice the third side. What are the measures of these second and third sides?

- 31.** Find the greatest common factor of 56 and 42

*Simplify.*

- 32.**  $\frac{18hk}{54h^2}$

*Write the mixed number as an improper fraction and the improper fraction as a mixed number.*

*Find the LCD of this pair of fractions. Then build up each fraction to have that common denominator.*

**33.**  $\frac{19}{4}$

**34.**  $6\frac{5}{8}$

**35.**  $\frac{7}{30}$  and  $\frac{8}{45}$

Evaluate and simplify. Write improper fractions as mixed numbers.

36.  $\frac{3}{2} \cdot \frac{5}{6} \cdot \frac{8}{15}$

37.  $\frac{10}{21} \div \frac{15}{14}$

38.  $4\frac{1}{6} \div 2\frac{2}{9}$

39.  $\frac{13}{24} m + \frac{5}{24} m$

40.  $\frac{29}{35} - \frac{2}{5}$

41.  $2\frac{7}{10} + 3\frac{7}{15}$

42.  $-\frac{3x}{5} \div \left(-\frac{9x}{10}\right)$

43.  $-\frac{5}{12} r^2 + \frac{1}{6} r^2$

44. Three-fifths of  $3\frac{8}{9}$

*Solve each equation.*

**45.**  $-28 = 42x$

**46.**  $\frac{3m}{10} = \frac{2}{15}$

*Solve each application.*

**47.** The last event in the Policeman's Olympics is the relay race in which six team members must run an equal portion of a  $10\frac{1}{2}$ -mile course. How many miles must each team member run in the relay?

**48.** Before yesterday, Kahlil's best long jump was 7 feet,  $4\frac{5}{8}$  inches. Yesterday, he set a new personal best by jumping 7 feet,  $6\frac{1}{16}$  inches. By how many inches did Kahlil surpass his previous best mark?