

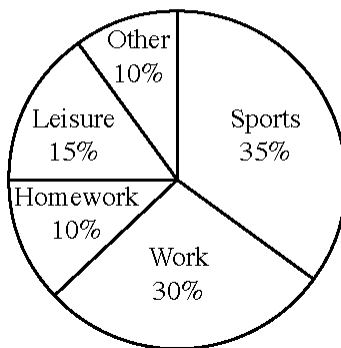
Algebra Review for Geometry

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ___ 1. Which of the following fractions represent the smallest number?
a. $\frac{4}{7}$ b. $\frac{7}{12}$ c. $\frac{3}{5}$ d. $\frac{2}{3}$ e. $\frac{5}{9}$
- ___ 2. On a trip of 525 miles, how many minutes faster is it to travel at 60 miles per hour rather than 50 miles per hour?
a. 95 min b. 85 min c. 115 min d. 105 min e. 75 min
- ___ 3. Solve $3(8 - x) = -6x + 15$.
a. -3 b. -1 c. 2 d. -2 e. 3
- ___ 4. During the last 10 years, the population of a town increased from 6000 to 10,320. What percent increase does this represent?
a. 80% b. 72% c. 75% d. 78% e. 70%
- ___ 5. The first five batters on a softball team's lineup have the following numbers of hits for the season: 83, 71, 68, 62, 61. What is the mean number of hits for these five players?
a. 71 b. 69 c. 68 d. 70 e. 67
- ___ 6. Which of these numbers is between 6 and 7?
a. $2\sqrt{5}$ b. $3\sqrt{6}$ c. $6\sqrt{2}$ d. $4\sqrt{3}$ e. $5\sqrt{2}$
- ___ 7. $\sqrt{\frac{1}{9}} - \sqrt{\frac{1}{36}} = ?$
a. $-\sqrt{\frac{1}{27}}$ b. $\frac{1}{6}$ c. -3 d. $\sqrt{\frac{1}{12}}$ e. $\frac{1}{2}$
- ___ 8. Which of the following is the prime factorization of 168?
a. $2 \times 3 \times 4 \times 7$ d. $2 \times 2 \times 3 \times 3 \times 7$
b. 8×23 e. $2 \times 2 \times 2 \times 3 \times 7$
c. $2 \times 2 \times 2 \times 3 \times 3 \times 7$
- ___ 9. The circle graph below shows the results of a survey of the 660 students in a school. How many students participate in sports?

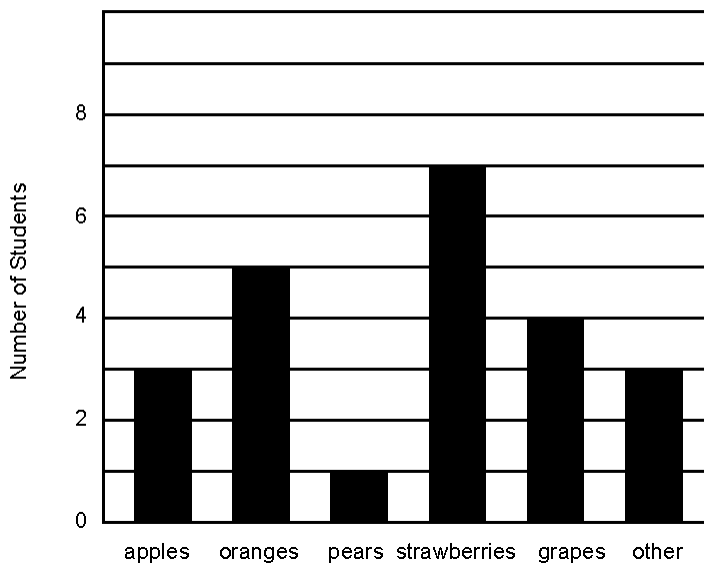
**After-School Activities
for 660 Students**



- a. 237 b. 35 c. 231 d. 243 e. 249

- ___ 10. $\frac{3}{5} + \frac{1}{3} = ?$
 a. $\frac{4}{5}$ b. $\frac{8}{15}$ c. $\frac{1}{2}$ d. $\frac{4}{15}$ e. $\frac{14}{15}$
- ___ 11. Which of these expressions represents the greatest number?
 a. $|-11 + (-4)| - |-4|$ d. $|-6 - (-12)| - 4$
 b. $-|7 - 3| + |-9 - 11|$ e. $-|-8| + |-9| + |4 - 8|$
 c. $|-8 + (-2)| + |-7|$
- ___ 12. Solve for x if $\frac{12}{21} = \frac{x+4}{2x+4}$.
 a. 8 b. 10 c. 9 d. 12 e. $8\frac{1}{2}$
- ___ 13. Students must choose one of five books for their next book report. The books have 218, 180, 240, 164, and 128 pages, respectively. What is the range in the number of pages per book?
 a. 144 b. 180 c. 162 d. 186 e. 112
- ___ 14. A class of kindergartners was interviewed about their favorite fruit, with the results shown in the bar graph below. How many students are in the class?

Favorite Fruits of Kindergartners



- a. 19 b. 23 c. 21 d. 25 e. 22
- ___ 15. Mercury, in its metallic form, has a melting point of -38.9°C and a boiling point of 356.6°C . How many degrees higher is the boiling point than the melting point?
 a. 384.7°C b. 385.5°C c. 395.5°C d. 316.3°C e. 317.7°C
- ___ 16. Solve $0.2(0.4 - x) = 0.6$.
 a. 0.1 b. 3.4 c. 2.4 d. -1.8 e. -2.6
- ___ 17. Selena has eight quarters, five dimes, and three nickels in her pocket. If one coin is selected at random, what is the probability that it will not be a quarter?
 a. $\frac{1}{4}$ b. $\frac{1}{5}$ c. $\frac{5}{11}$ d. $\frac{1}{2}$ e. $\frac{1}{3}$

- ___ 18. Evaluate $a(a - \sqrt{b})^{-1}$ when $a = 4$ and $b = \frac{1}{4}$.
- a. $\frac{8}{7}$ b. $\frac{7}{4}$ c. $-\frac{7}{2}$ d. $\frac{4}{7}$ e. 14
- ___ 19. Six more than 3 times x equals 4 times 2 less than x . Find x .
- a. 9.5 b. -2.5 c. 6 d. 26 e. 14
- ___ 20. Simplify $\frac{m}{2} + \frac{2m}{3} + \frac{3m}{4}$.
- a. $\frac{11m}{9}$ b. $\frac{23m}{12}$ c. $\frac{2m}{3}$ d. $\frac{11m}{12}$ e. $\frac{21m}{12}$
- ___ 21. Use the quadratic formula to solve $3x^2 - 2x - 4 = 0$ for x .
- a. $\frac{1}{3} \pm \frac{2\sqrt{13}}{3}$ d. $\frac{1}{3} \pm \frac{\sqrt{13}}{3}$
b. $\frac{1}{6} \pm \frac{2\sqrt{13}}{3}$ e. $\frac{5}{6} \pm \frac{2\sqrt{13}}{3}$
c. $\frac{1}{6} \pm \frac{\sqrt{13}}{6}$
- ___ 22. Find y if $2x + 4y = 2$ and $4x + y = 18$.
- a. 2 b. -2 c. -4 d. 4 e. 6
- ___ 23. Solve $|3x + 2| \leq 5$.
- a. $x \geq 1$ or $x \leq -\frac{7}{3}$ d. $-\frac{7}{3} \leq x \leq 1$
b. $x \leq -1$ or $x \geq \frac{7}{3}$ e. $1 \leq x \leq \frac{7}{3}$
c. $-1 \leq x \leq \frac{7}{3}$
- ___ 24. What is the eighteenth term in the arithmetic sequence 87, 94, 101, ...?
- a. 192 b. 206 c. 220 d. 199 e. 213
- ___ 25. Sally has 42 coins, all dimes and nickels, that have a total value of \$3.00. How many nickels does she have?
- a. 22 b. 18 c. 20 d. 26 e. 24
- ___ 26. Which of the following sets of numbers could *not* represent the lengths of the sides of a triangle?
- a. 3.6, 4.2, 7.5 d. 5.5, 6.5, 10.5
b. 5.1, 6.4, 11.7 e. 1.6, 9.2, 9.2
c. 2.9, 8.3, 10.1
- ___ 27. Which point lies in the fourth quadrant?
- a. (6, -2) b. (5, 3) c. (-3, -4) d. (-8, 5) e. (0, -7)
- ___ 28. Which of the following equations represents a line has slope 3 and passes the point at (-4, -1)?
- a. $x + 3y = -7$ d. $3x + y = 11$
b. $3x - y = -11$ e. $x - 3y = -1$
c. $3x + y = -13$
- ___ 29. What is the distance between the points at (-2, 5) and (2, -1)?
- a. $4\sqrt{3}$ b. $2\sqrt{13}$ c. $6\sqrt{2}$ d. $2\sqrt{15}$ e. 8
- ___ 30. Which of the following equations represents a line that passes through point (2, -1) and (-4, 3)?
- a. $3x + 2y = 4$ d. $2x + 3y = 1$
b. $2x - 3y = 7$ e. $3x - 2y = -18$
c. $3y - 2x = 1$

- _____ 31. What is the slope of the line whose equation is $3x - 5y = 10$?
- a. $\frac{3}{5}$ b. $-\frac{3}{5}$ c. $\frac{5}{3}$ d. 2 e. $-\frac{5}{3}$
- _____ 32. What is an equation of the line perpendicular to the graph of $y = -2x + 5$ that passes through the point at (4, 7)?
- a. $x + 2y = 18$ d. $2x - y = 1$
b. $x - 2y = -5$ e. $x - 2y = -10$
c. $2x + y = 15$
- _____ 33. What is the slope of the line passing through the points at $(-5, -2)$ and $(3, 2)$?
- a. 2 b. -2 c. 4 d. $\frac{1}{2}$ e. $-\frac{1}{2}$
- _____ 34. What is an equation of the line with y -intercept 5 and x -intercept -3 ?
- a. $y = \frac{5}{3}x - 3$ d. $y = \frac{3}{5}x + 5$
b. $y = \frac{3}{5}x + 3$ e. $y = -\frac{5}{3}x + 5$
c. $y = \frac{5}{3}x + 5$
- _____ 35. What is the midpoint of \overline{AB} if A has coordinates $(3, -8)$ and B has coordinates $(-5, 2)$?
- a. $(-2, -3)$ b. $(-2, -2)$ c. $(-1, -3)$ d. $(-2, -4)$ e. $(-1, -4)$

Algebra Review for Geometry Answer Section

MULTIPLE CHOICE

- | | |
|------------|---------------------------|
| 1. ANS: E | TOP: Pre-Algebra |
| 2. ANS: D | TOP: Pre-Algebra |
| 3. ANS: A | TOP: Pre-Algebra |
| 4. ANS: B | TOP: Pre-Algebra |
| 5. ANS: B | TOP: Pre-Algebra |
| 6. ANS: D | TOP: Pre-Algebra |
| 7. ANS: B | TOP: Pre-Algebra |
| 8. ANS: E | TOP: Pre-Algebra |
| 9. ANS: C | TOP: Pre-Algebra |
| 10. ANS: E | TOP: Pre-Algebra |
| 11. ANS: C | TOP: Pre-Algebra |
| 12. ANS: D | TOP: Pre-Algebra |
| 13. ANS: E | TOP: Pre-Algebra |
| 14. ANS: B | TOP: Pre-Algebra |
| 15. ANS: C | TOP: Pre-Algebra |
| 16. ANS: E | TOP: Pre-Algebra |
| 17. ANS: D | TOP: Pre-Algebra |
| 18. ANS: A | TOP: Elementary Algebra |
| 19. ANS: E | TOP: Elementary Algebra |
| 20. ANS: B | TOP: Elementary Algebra |
| 21. ANS: D | TOP: Intermediate Algebra |
| 22. ANS: B | TOP: Intermediate Algebra |
| 23. ANS: D | TOP: Intermediate Algebra |
| 24. ANS: B | TOP: Intermediate Algebra |
| 25. ANS: E | TOP: Intermediate Algebra |
| 26. ANS: B | TOP: Geometry |
| 27. ANS: A | TOP: Coordinate Geometry |
| 28. ANS: B | TOP: Coordinate Geometry |
| 29. ANS: B | TOP: Coordinate Geometry |
| 30. ANS: D | TOP: Coordinate Geometry |
| 31. ANS: A | TOP: Coordinate Geometry |
| 32. ANS: E | TOP: Coordinate Geometry |
| 33. ANS: E | TOP: Coordinate Geometry |
| 34. ANS: C | TOP: Coordinate Geometry |
| 35. ANS: C | TOP: Coordinate Geometry |