

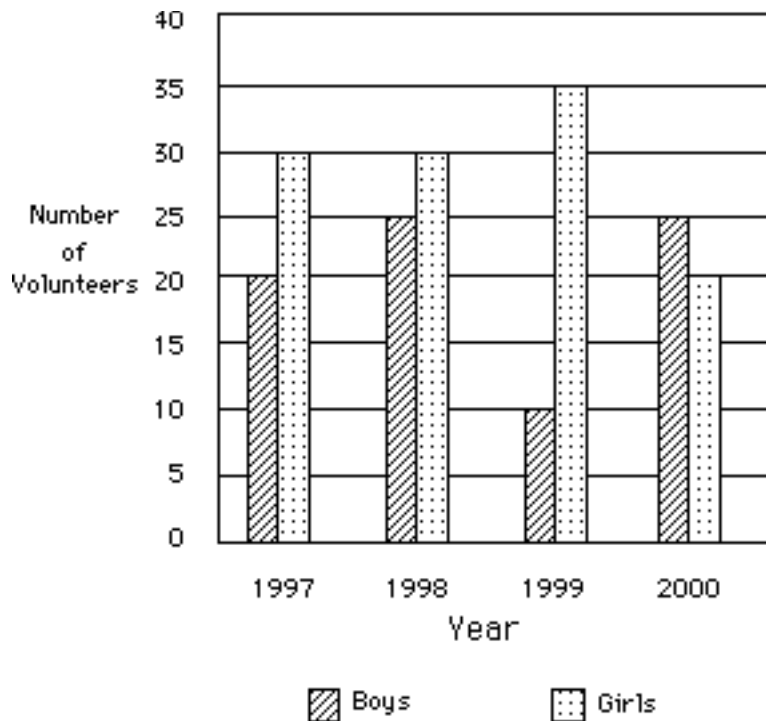
1. Suppose that your school is collecting labels from canned foods to raise money. You removed the labels from 3 cans of green beans, 4 cans of spinach, 6 cans of pinto beans and 8 cans of peas. Later, as you get hungry, you decide to open a can at random. What is the probability that you will not have to eat spinach?
 - a) $\frac{4}{21}$
 - b) $\frac{1}{4}$
 - c) $\frac{3}{4}$
 - d) $\frac{4}{17}$
 - e) $\frac{17}{21}$

2. Jay wanted to buy a video game, but at \$56, it was too expensive. Later, the store put the game on sale, marking the price down by 25%. Jay also found a coupon in the paper the gave 10% off the sale price. Using the coupon, Jay bought the game. How much did Jay pay for the game (not including sales tax).
 - a) \$14.00
 - b) \$21.00
 - c) \$31.00
 - d) \$37.80
 - e) \$50.40

3. A CD club charges \$20 to join. Members pay \$10 for each CD they buy. Last year Lynn joined the club and bought some CD's. Lynn spent a total of \$450 with the CD club on membership and CD's. How many CD's did Lynn buy?
 - a) 43
 - b) 44
 - c) 45
 - d) 46
 - e) 47

4. At 3:00 am the temperature was -7° F. At 3:00 pm the temperature was 23° F. How much warmer was it at 3:00 pm than at 3:00 am?
 - a) -30°
 - b) -16°
 - c) 16°
 - d) 30°
 - e) 32°

5. The following graph shows the number of volunteers that signed up for the Math Olympics event at the elementary school. Choose a valid conclusion that can be drawn from the data on the graph.



- a) There were more volunteers in 1999 than in 1997.
 b) The number of volunteers increased each year.
 c) More boys signed up to volunteer in 1998 than in any other year.
 d) There were fewer volunteers in 2000 than in 1997.
 e) More girls signed up to volunteer in 1998 than in 1999.
6. If 2 robots can assemble 4 cars in 5 days, how many cars can 4 robots assemble in 15 days?
- a) 8 cars
 b) 9 cars
 c) 19 cars
 d) 24 cars
 e) 30 cars
7. Which of the following numbers is greater than 24^{100} ?
- a) 48^{75}
 b) 5^{200}
 c) 3^{200}
 d) 2^{400}
 e) 72^{50}

8. A large bulletin board is 20 feet wide and 4 feet tall. The Chess Club uses $\frac{1}{4}$ of the bulletin board for its announcements. The Science Club and the Math Club share the rest of the bulletin board equally. How many square feet of space does the Math Club have on the bulletin board?

- a) 16 square feet
- b) 20 square feet
- c) 30 square feet
- d) 40 square feet
- e) 80 square feet

9. This table shows the number of shots attempted and made for the starting five players of a basketball team.

Player	A	B	C	D	E
Shots Attempted	53	46	71	18	37
Shots made	38	29	57	6	15

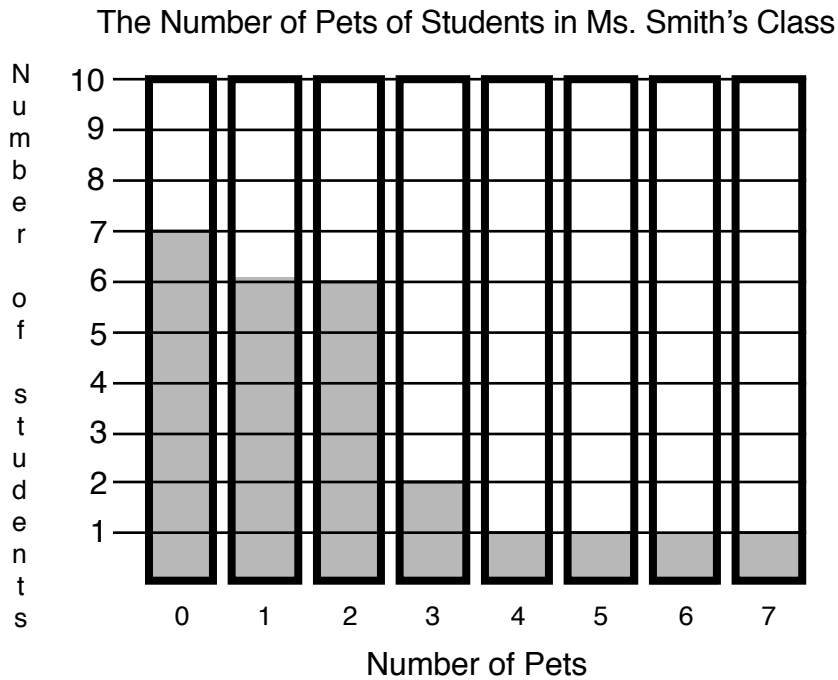
What percent (rounded to the nearest percent) of the shots taken by the starting five players were made?

- a) 0.64%
- b) 64%
- c) 3%
- d) 145%
- e) 289%

10. Each list contains a set of numbers. In which list are all the numbers equivalent?

- a) 0.375 , $37\frac{1}{2}\%$, $\frac{3}{8}$
- b) 2.5 , 205% , $\frac{5}{2}$
- c) 0.0015 , 1.5% , $\frac{15}{10000}$
- d) 10.01 , 1001% , $\frac{1001}{10}$
- e) 0.0625 , 6.25% , $\frac{62500}{1000000}$

11. The first column of the graph shown below indicates that seven students in Ms. Smith's class have no pets. Based upon the data shown in the graph, what is the average number (rounded to the nearest whole number) of pets per student?



- a) 0
 b) 1
 c) 2
 d) 3
 e) 4
12. The top of a straight slide is 14 feet above the ground. The bottom of the slide is 2 feet above the ground. The slide itself is 20 feet long. When you have slid 5 feet down the slide, how far above the ground are you?
- a) 7 feet
 b) 8 feet
 c) 9 feet
 d) 10 feet
 e) 11 feet
13. Which statement is false?
- a) Some equilateral triangles are right triangles.
 b) All squares are rectangles.
 c) Some isosceles triangles are right triangles.
 d) All rectangles are parallelograms.
 e) Some parallelograms are rhombuses.

14. A pirate found a treasure. He kept half of it. He gave one third of what was left to his oldest child. To the youngest child, he gave three fourths of what was left after the oldest child got her share. There was \$360 left after both children got their shares; so the pirate used that money to throw a big party. How much was the original treasure worth?

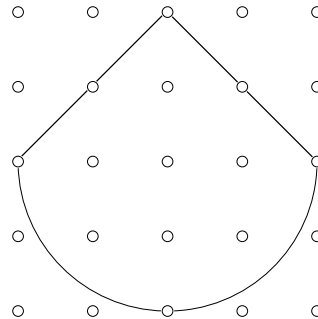
- a) \$1575
- b) \$8640
- c) \$2880
- d) \$3600
- e) \$4320

15. A new tax was proposed on property. The tax rate was 37¢ per \$100. How much tax would there be on a piece of property that cost \$100,000?

- a) \$37,000
- b) \$3,700
- c) \$370
- d) \$37
- e) \$3.70

16. The dots are arranged so that the horizontal distance between consecutive dots is one centimeter. The vertical distance between consecutive dots is also one centimeter. The arc in the figure shown below is a semicircle. What is the area of the figure?

- a) 20π
- b) $4 + 4\pi$
- c) 12π
- d) $4 + 2\pi$
- e) 16π



17. An aquarium is 9 inches wide, 12 inches tall, and 20 inches long. How many cubic feet of water will the aquarium hold?

- a) 2160 cubic feet
- b) 41 cubic feet
- c) 180 cubic feet
- d) 15 cubic feet
- e) 1.25 cubic feet

18. A cube that is four centimeters on each side is immersed in a bucket of paint. The large cube is then cut into smaller cubes that are one centimeter on each side. How many of the smaller cubes will have no paint on them?

- a) 0 cubes
- b) 1 cube
- c) 8 cubes
- d) 16 cubes
- e) 64 cubes

19. In base three, there are only 3 digits—0, 1, and 2. Here are base three numbers that are equal to the first ten counting numbers.

1 2 10 11 12 20 21 22 100 101

What base three number would equal twenty?

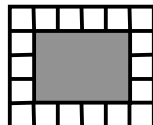
- a) 200
- b) 201
- c) 202
- d) 1000
- e) 1001

20. A bag contains 50 peppermint lifesavers, 25 wintergreen lifesavers, and 75 spearmint lifesavers. Without looking, you draw two lifesavers one at a time and lay them both on the table. What is the probability (rounded to the nearest percent) that you drew two peppermints?

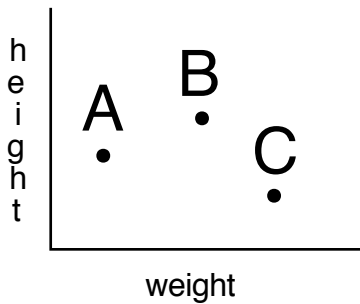
- a) 50%
- b) 33%
- c) 11%
- d) 4%
- e) 1%

21. A swimming pool is 15 feet wide and 30 feet long. Square tiles that are 1 foot on each side are arranged to make a border one tile wide around the outer edge of the pool as shown in the example below. How many tiles are used to make the border around the pool?

- a) 90 tiles
- b) 94 tiles
- c) 450 tiles
- d) 49 tiles
- e) 45 tiles

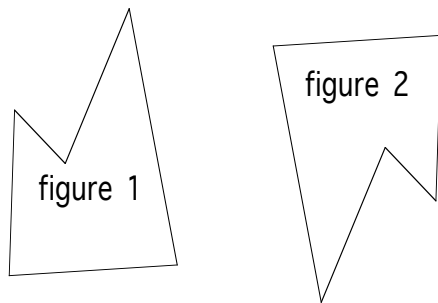


22. There are three children in the James family. Jimmy is shorter than Gina. Freda is taller than Gina. Jimmy is the heaviest. Freda weighs more than Gina. On the graph shown below, which point represents which person?



- A represents Jimmy; B represents Gina; C represents Freda.
- B represents Jimmy; A represents Gina; C represents Freda.
- C represents Jimmy; B represents Gina; A represents Freda.
- A represents Jimmy; C represents Gina; B represents Freda.
- C represents Jimmy; A represents Gina; B represents Freda.

23. Figure 2 was created from Figure 1 by which motion?



- a flip (reflection)
- a slide (translation)
- a turn (rotation)
- a slide followed by a flip
- a flip followed by a slide

24. The greatest common factor of two different numbers is 36. Which statement is true about the two numbers?

- Both numbers must be greater than 36.
- Both of the numbers must be less than 36.
- Neither number can be a multiple of five.
- Both numbers must be odd.
- Both numbers must be even.

25. At one minute after midnight, a chiming clock is set and started. On the hour, the clock chimes the corresponding number of times (once at 1:00, twice at 2:00, three times at 3:00, etc.). It also chimes once on the half hour (once at 1:30, once at 2:30, once at 3:30, etc.). The clock keeps good time. How many times does it chime in one day?

- a) 78 times
- b) 90 times
- c) 156 times
- d) 180 times
- e) 200 times

26. This is an addition table for clock arithmetic. (For example, it shows that $2 \oplus 3 = 0$)

\oplus	0	1	2	3	4
0	0	1	2	3	4
1	1	2	3	4	0
2	2	3	4	0	1
3	3	4	0	1	2
4	4	0	1	2	3

Based upon this addition table, what is the value of $2 \oplus (2 \oplus 4)$?

- a) 0
- b) 1
- c) 2
- d) 3
- e) 4

27. These are the first five rows of Pascal's Triangle.

$$\begin{array}{c}
 1 \\
 1 \ 1 \\
 1 \ 2 \ 1 \\
 1 \ 3 \ 3 \ 1 \\
 1 \ 4 \ 6 \ 4 \ 1
 \end{array}$$

What is the sum of the numbers in the 10th row of Pascal's Triangle?

- a) 32
- b) 64
- c) 256
- d) 512
- e) 1024

28. A group of children are wearing consecutive numbers. The first child has on number one. The second has on number two. The third has on number three and so on. They are arranged in order evenly around a circle. Number 10 is standing directly across the diameter of the circle from number 21. How many children are standing in the circle?
- a) 42
 - b) 32
 - c) 31
 - d) 26
 - e) 22
29. At a park there are 14 bicycles. Some have training wheels and some do not. There are 36 wheels in all (counting regular wheels and training wheels). How many of the bicycles have training wheels?
- a) 18
 - b) 12
 - c) 8
 - d) 4
 - e) 2
30. A ranger wanted to know about how many bass were in a particular lake. She caught 40 bass, tagged them, and threw them back in. A few days later, she caught 25 bass and discovered that 3 of the ones caught were tagged. Based upon this information, what would be a reasonable estimate of the number of bass in the lake?
- a) 62
 - b) 105
 - c) 196
 - d) 333
 - e) 1000