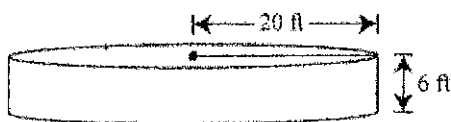


Please do not write on paper.

8th Grade Math-Practice EOG

You may use a calculator on problems #1-25.

1. John has a cylindrical pool with the radius and height shown.



If John fills the tank to 0.5 feet below the top, how much water must he use? (Use $\pi = 3.14$.)

- A. 345.4 ft^3 C. $1,256.0 \text{ ft}^3$
 B. 753.6 ft^3 D. $6,908.0 \text{ ft}^3$

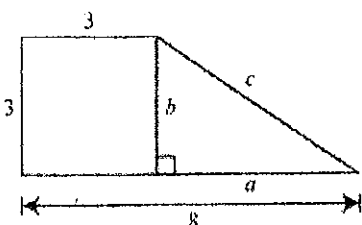
2. Line segment RS has endpoints $(-2, 7)$ and $(6, -3)$. To the nearest tenth of a unit, what is the length of line segment RS ?

- A. 5.7 units C. 10.8 units
 B. 8.9 units D. 12.8 units

3. National Cellular charges \$25 per month plus an additional \$0.15 per minute for its least expensive cellular service plan. Standard Cellular charges \$30 per month plus an additional \$0.10 per minute for a similar plan. At how many minutes would both companies charge the same amount?

- A. 20 minutes C. 220 minutes
 B. 100 minutes D. 1,100 minutes

4. A square and a right triangle are connected with a common side of length b .



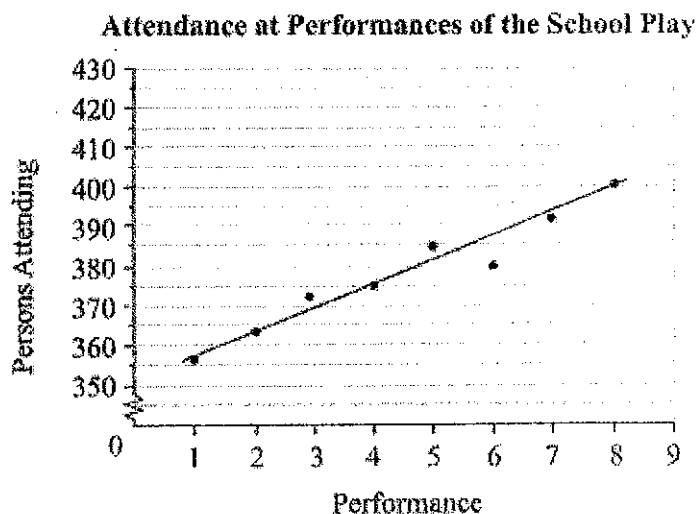
What is the value of c ?

- A. $\sqrt{34}$ C. $\sqrt{73} + 3$
 B. $\sqrt{73}$ D. $\sqrt{89} + 3$

5. The park is 6 miles north and 3 miles east of the library. There is a bike trail that connects the park and library with a straight path. To the nearest mile, how long is the bike trail?

- A. 3 C. 7
 B. 5 D. 9

6. The scatter plot shows the attendance at the first 8 performances of a school play and a line of best fit.



Based on the line of best fit, how many people can they expect at performance 10?

- A. 400 C. 420
 B. 410 D. 430

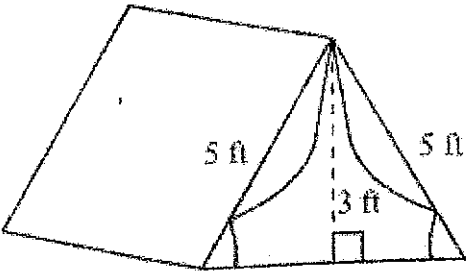
7. The two-way table below shows the survey results for 50 people who were asked, "Have you ever flown on a plane?" and "Have you ever been to a foreign country?"

		Flown on a Plane	
		Yes	No
Been to a Foreign Country	Yes	23	5
	No	12	10

Approximately what percent of the people who have flown on a plane have been to a foreign country?

- A. 39% C. 66%
 B. 46% D. 82%

8. Marcus takes the tent shown on a camping trip.



To the nearest tenth, what is the measure of the base of the triangular front of the tent?

- A. 5.0 feet
- B. 7.1 feet
- C. 8.0 feet
- D. 11.7 feet

9. A survey was taken at a summer camp on what kind of pet each camper owned. Of all the campers who had pets, there were 175 girls and 175 boys.

Pets Owned by Campers

	Girls	Boys
Cat Owners	130	25
Dog Owners	45	150

Which gives the best description of the survey results?

- A. The proportion of campers who own cats is 56%.
- B. The proportion of campers who own cats is 44%.
- C. The proportion of girl campers who own dogs is 74%.
- D. The proportion of boy campers who own dogs is 25%.

10. Teresa starts watching fireflies at 8:00. She records the number she sees each minute. At 8:15, she stops and finds that the equation $f = 2m + 3$ gives the total number of fireflies, f , she has seen m minutes after 8:00. Which statement describes this equation?

- A. She saw two fireflies at 8:00 and saw three fireflies each minute until 8:15.
- B. She saw three fireflies at 8:00 and saw two fireflies each minute until 8:15.
- C. She saw two fireflies each minute after 8:00 and saw three fireflies when she stopped at 8:15.
- D. She saw three fireflies each minute after 8:00 and saw two fireflies when she stopped at 8:15.

11. Which expression is equivalent to $\left[(2^a)^b \right]^c$?

- A. 2^{abc}
- B. $2^{(a+b+c)}$
- C. $2^{a(b+c)}$
- D. $2^{c(a+b)}$

12. Which expression is equivalent to $8(3w^2) - 3w(5w)$?

- A. $3w^2$
- B. $9w^2$
- C. $19w^2$
- D. $39w^2$

13. For a fundraiser, an organization rented an auditorium to hold a karaoke contest. The profit for the event is given by $P = 5s - 250$, where P is the profit and s is the number of singers. What does the number 250 most likely represent?

- A. The entry fee for each singer.
- B. The amount required to rent the auditorium.
- C. The membership fee to join the organization.
- D. The number of singers required to make a profit.

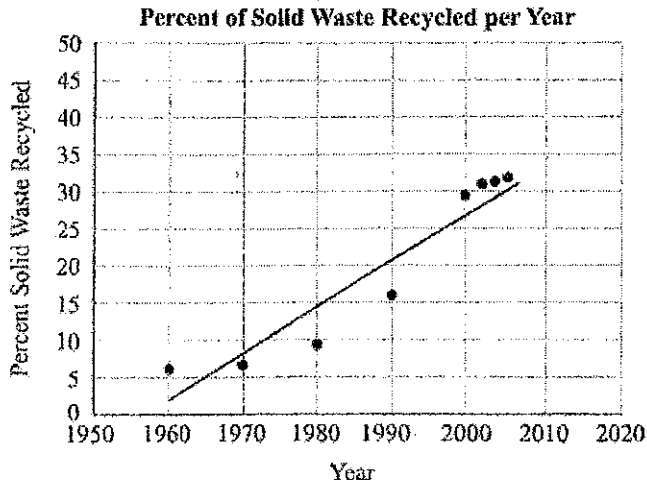
14. If a TV screen has a base of 48 inches and a height of 20 inches, what is the length of the screen's diagonal?

- A. 28 inches
- B. 44 inches
- C. 52 inches
- D. 68 inches

15. A scatter plot is created for each relationship described below. Which relationship is likely to produce data that have no correlation?

- A. the number of hours spent listening to music and the day of the month
- B. the number of books that a class reads and the number of students in the class
- C. the number of boxes of candy sold and the amount of money raised during a school fundraiser
- D. the number of games played and total number of points scored during one season by a football team

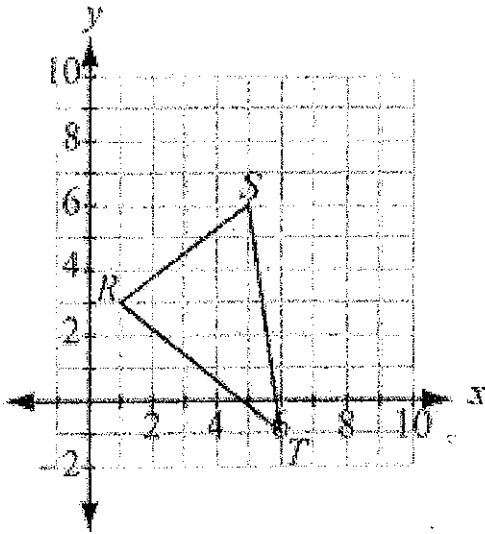
The scatter plot shows the percent of solid waste that has been recycled from 1960 to 2005.



According to the scatter plot and the line of best fit shown, which is a reasonable prediction for the percent of solid waste recycled in 2020?

- A. 25
- B. 32
- C. 39
- D. 50

7. Triangle *RST* is translated 5 units to the right and 3 units down.



What will be the coordinates of the image of point *T*?

- A. (1, 2)
- B. (3, 4)
- C. (9, -6)
- D. (11, -4)

18. Which expression is equivalent to $(5x^2y^3)^2$?

- A. $10x^4y^5$
- B. $10x^4y^6$
- C. $25x^4y^5$
- D. $25x^4y^6$

19. A number, *n*, is 16 greater than another number, *p*. Which equation shows this relationship?

- A. $n + p = 16$
- B. $n + p = -16$
- C. $n - p = 16$
- D. $n - p = -16$

20. In which table is the distance traveled a linear function of time?

A. Time Versus Distance Table

Time (minutes)	Distance Traveled (minutes)
0	0
10	9
20	18
30	22

B. Time Versus Distance Table

Time (minutes)	Distance Traveled (minutes)
0	0
10	9
20	18
30	27

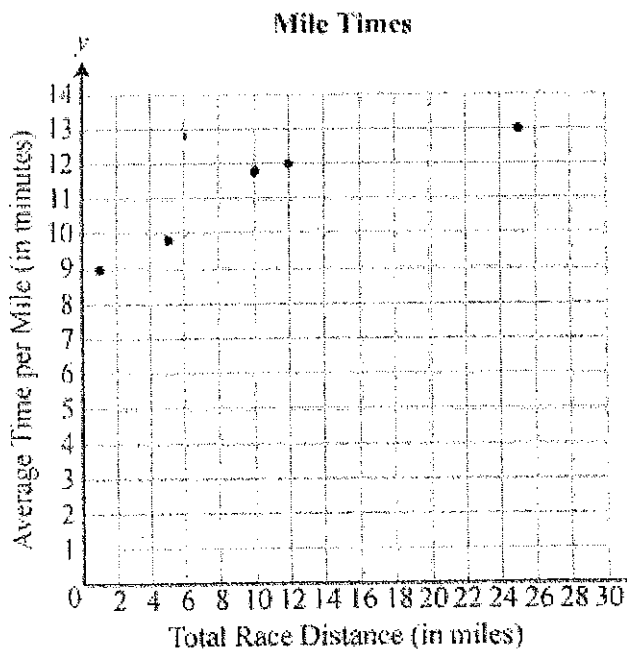
C. Time Versus Distance Table

Time (minutes)	Distance Traveled (minutes)
0	0
10	9
20	19
30	30

D. Time Versus Distance Table

Time (minutes)	Distance Traveled (minutes)
0	0
10	9
20	18
30	36

21. Karen calculated the average time it took her to run a mile during races of different lengths. She plotted the information on the scatter plot below.



What can be inferred from Karen's scatter plot?

- A. Karen's average time per mile was less for shorter races.
- B. Karen's average time per mile was greater for shorter races.
- C. Karen's average time per mile was not affected by race length.
- D. Karen's average time per mile was the least for the race with the longest distance.

22. Which set of ordered pairs does NOT represent a function?

- A. $\{(1, 1), (2, 2), (3, 3), (4, 4)\}$
- B. $\{(1, 7), (2, 8), (3, 9), (4, 9)\}$
- C. $\{(7, 1), (8, 2), (9, 3), (9, 4)\}$
- D. $\{(1, -1), (2, -2), (3, -3), (4, -4)\}$

23. $\overline{X'Y'}$ is a dilation of \overline{XY} by a factor of 2. If the length of $\overline{X'Y'}$ is 6 units, what is the length of \overline{XY} ?

- A. 3 units
- B. 4 units
- C. 12 units
- D. 36 units

24. The table shows a function.

x	-1	0	1	2	3	4	5
y	-10	-3	4	11	18	25	32

Which equation represents this function?

- A. $y = 6x - 4$
- B. $y = 7x - 3$
- C. $y = -7x^2 - 3$
- D. $y = -6x^2 - 4$

25. What is the slope of the line with the equation $5x - 2y = 10$?

- A. $-\frac{2}{5}$
- B. $\frac{2}{5}$
- C. $\frac{5}{2}$
- D. 5

STOP

Please raise your hand and wait for your teacher to tell you to move on.

For the next part of the test, you will place your calculator under your desk.