

March 16, 2016

Dear Grade 6 Parent/ Guardian,

Spring is in the air which means testing is just around the corner! Grade 6 math students will take the PARCC assessment during the mornings of March 29-31. Please be sure students are well rested and have had a healthy breakfast. To mathematically prepare your child for this assessment, the grade 6 math teachers have compiled some practice test questions. Attached you will find a PARCC Practice Test to complete with your child; this is due on the morning of Tuesday, March 29. Please take time each night to complete a few questions instead of waiting until the night before. If any questions arise while students are working, please send those questions into school. We would be happy to answer these questions during math class. As an incentive, students who complete this packet (showing all work as needed) and submit on the due date will be given an extra twenty minutes of lunch time at a day and time to be determined. We truly feel that practicing each night is beneficial to student success.

Sincerely,

Grade 6 Math Teachers

# Mathematics Practice Test #1

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## Practice Questions

1. Antonio wants to buy a roll of border to finish an art project. At four different shops, he found four different borders he liked. He wants to use the widest of the borders. The list shows the width, in inches, of the borders he found.

$$1\frac{7}{10}, 1.72, 1\frac{3}{4}, 1.695$$

Which roll of border should Antonio buy if he wants to buy the widest border?

(A)  $1\frac{7}{10}$

(B) 1.72

(C)  $1\frac{3}{4}$

(D) 1.695

2. Daniella wrote a decimal and a fraction which were equivalent to each other. Which pair of numbers could be the pair Daniella wrote?

(A)  $0.625, \frac{7}{8}$

(B)  $0.375, \frac{3}{8}$

(C)  $0.75, \frac{7}{5}$

(D)  $0.45, \frac{4}{5}$

3. Glenda poured salt into three salt shakers from a box that contained 19 ounces of salt. She poured 5 ounces of salt into one shaker. She divided what was left evenly into the other two shakers. Which equation best represents this scenario?

(A)  $19 - 5 - 2(7) = 0$

(B)  $5 + 2 + 7 = 19$

(C)  $19 - 2 - 7 - 7 = 0$

(D)  $19 - 2(5) - 7 = 0$

4. Large boxes of canned beans hold 24 cans of beans and small boxes hold 12 cans. One afternoon, Gerald brought 4 large boxes of canned beans and 6 small boxes of canned beans to the food bank. How many cans of beans did Gerald bring to the food bank that afternoon?

- (A) 168
- (B) 192
- (C) 288
- (D) 360

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5. Enrique used a formula to find the total cost, in dollars, for repairs he and his helper, Jenny, made to a furnace. The expression below shows the formula he used, with 4 being the number of hours he worked on the furnace and 2 being the number of hours Jenny worked on the furnace.

$$20 + 35(4 + 2) + 47$$

What is the total cost for repairing the furnace?

- (A) \$189
- (B) \$269
- (C) \$277
- (D) \$377

6. One morning at Jim's café, 25 people ordered juice, 10 ordered milk, and 50 ordered coffee with breakfast. Which ratio best compares the number of people who ordered milk to the number of people who ordered juice?

- (A) 5 to 7
- (B) 5 to 2
- (C) 2 to 7
- (D) 2 to 5

7. At the middle school Vanessa attends, there are 240 Grade 6 students, 210 Grade 7 students, and 200 Grade 8 students. Which ratio best compares the number of students in Grade 8 to the number of students in Grade 6 at Vanessa's school?

- (A) 5 : 6
- (B) 5 : 11
- (C) 6 : 5
- (D) 7 : 8

8. A display at the bottom of the laptop computer Erica was using showed that the battery had a 70% charge. Which decimal is equivalent to 70%?

- (A) 0.07
- (B) 70.0
- (C) 7.0
- (D) 0.7

9. The drawing shows a chart used to record completed Math assignments. A checkmark is used to show which assignments are finished.

Math Assignment

✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓		
✓	✓			

Which of the following shows the percentage of Math assignments in the chart which are finished?

- (A) 15%
- (B) 25%
- (C) 55%
- (D) 75%

10. Harold learned that 6 out of 10 students at his school live within two miles of the school. If 240 students attend Grade 6 at his school, about how many of these students should Harold expect to live within two miles of the school?

- (A) 24
- (B) 40
- (C) 144
- (D) 180

11. A unit of liquid measure in the English System of Measure is the gill. The table, shown here, gives conversions from gills to fluid ounces.

Conversion Table

Gills	Fluid Ounces
2	8
4	16
5	20
6	24
10	40

Which equation best describes the relationship between gills,  $g$ , and fluid ounces,  $f$ ?

Ⓐ  $f = 8g - 8$

Ⓑ  $f = 2g + 4$

Ⓒ  $f = 4g$

Ⓓ  $4f = g$

12. The table below shows changes in the area of several trapezoids as the lengths of the bases,  $b_1$  and  $b_2$ , remain the same and the height,  $h$ , changes.

Trapezoids

$b_1$ (in feet)	$b_2$ (in feet)	$h$ (in feet)	$A$ (in square feet)
5	7	2	12
5	7	4	24
5	7	6	36
5	7	8	48

Which formula best represents the relationship between  $A$ , the areas of these trapezoids, and  $h$ , their heights?

Ⓐ  $A = 5h$

Ⓑ  $A = 6h$

Ⓒ  $A = 7h$

Ⓓ  $A = 12h$

13. This table shows lengths, widths, and areas of four rectangles. In each rectangle, the length remains 40 meters, but the width changes.

Rectangles				
Length	40 meters	40 meters	40 meters	40 meters
Width	20 meters	30 meters	40 meters	50 meters
Perimeter	120 meters	140 meters	160 meters	180 meters

Which formula best represents the relationship between  $P$ , the perimeters of these rectangles, and  $w$ , their widths?

- (A)  $P = w + 80$
- (B)  $P = 2w + 80$
- (C)  $P = 2(2w + 40)$
- (D)  $P = 10(w + 40)$

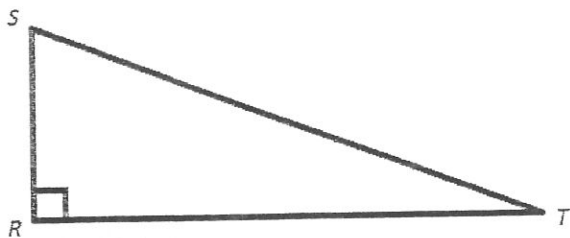
14. Thomas drew a polygon with vertices:  $A$ ,  $B$ ,  $C$ , and  $D$ . He measured the angles formed and recorded the information shown here.

$$m\angle A = 70^\circ, m\angle B = 80^\circ, m\angle C = 120^\circ, m\angle D = 90^\circ$$

Which of the angles that Thomas drew is an obtuse angle?

- (A)  $\angle A$
- (B)  $\angle B$
- (C)  $\angle C$
- (D)  $\angle D$

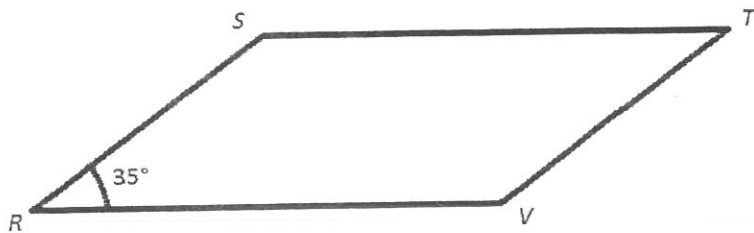
15. In  $\triangle RST$ , shown here,  $m\angle S$  is  $20^\circ$  less than  $m\angle R$ .



What is the measure of  $\angle T$ ?

- (A)  $110^\circ$
- (B)  $70^\circ$
- (C)  $50^\circ$
- (D)  $20^\circ$

16. Ellen measured  $\angle R$  in the parallelogram shown here and found it to be  $35^\circ$ . She knows that  $\angle R$  and  $\angle T$  have equal measures. She also knows  $\angle S$  and  $\angle V$  are equal in measure.



What is the measure of  $\angle V$ ?

- (A)  $215^\circ$
- (B)  $145^\circ$
- (C)  $70^\circ$
- (D)  $35^\circ$

17. Which expressions are equivalent to  $4(2n-6)$ ? Select all that apply.

- I.  $4n(2-6)$
- II.  $8n-24$
- III.  $8n+24$
- IV.  $2(2n-6)+2(2n-6)$
- V.  $5(2n-6)-(2n-6)$

18. A store buys sodas from the manufacture for \$3.60 a case. There are 24 sodas in a case. They sell them for \$.35 per soda. How much profit do the make on one soda?

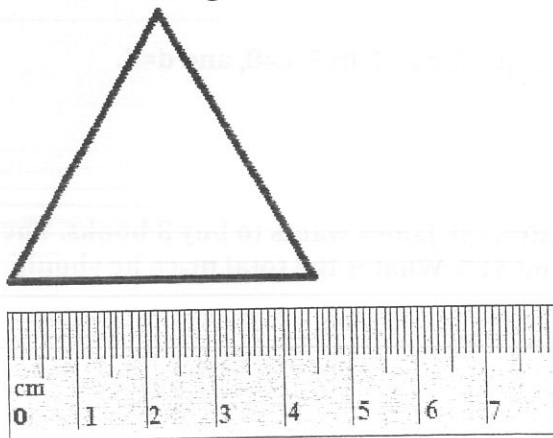
19. Jessica wrote down the times required for five girls to run a race. The times are shown in this list.

25.1 seconds, 24.9 seconds, 25.2 seconds, 24.8 seconds, 25.0 seconds

What time is closest to the total for all five runners?

- (A) 1 minute and 5 seconds
- (B) 1 minute and 25 seconds
- (C) 2 minutes and 5 seconds
- (D) 2 minutes and 25 seconds

20. This drawing shows an equilateral triangle and a ruler.

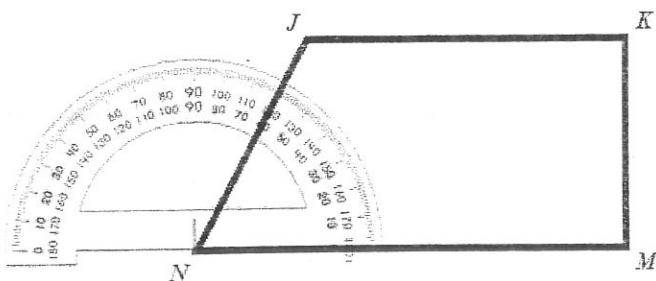


Which is closest to the perimeter of the triangle?

- (A) 4.5 centimeters
- (B) 9.0 centimeters
- (C) 13.5 centimeters
- (D) 20.3 centimeters



21. The drawing shows a protractor and a trapezoid.



Which is closest to the measure of  $\angle JNM$ ?

- (A)  $61^\circ$
- (B)  $79^\circ$
- (C)  $119^\circ$
- (D)  $121^\circ$

22. Given the equation  $a^2 + (2b - c) \times d$ , solve for  $a=2$ ,  $b=5$ ,  $c=8$ , and  $d=4$ .

23. Mega Book Store is selling books for 30% off. James wants to buy 3 books. The regular prices of the books are \$8, \$12, and \$15. What is the total price he should expect to pay during the sale?

- (A) \$35
- (B) \$25
- (C) \$24.50
- (D) \$23.50

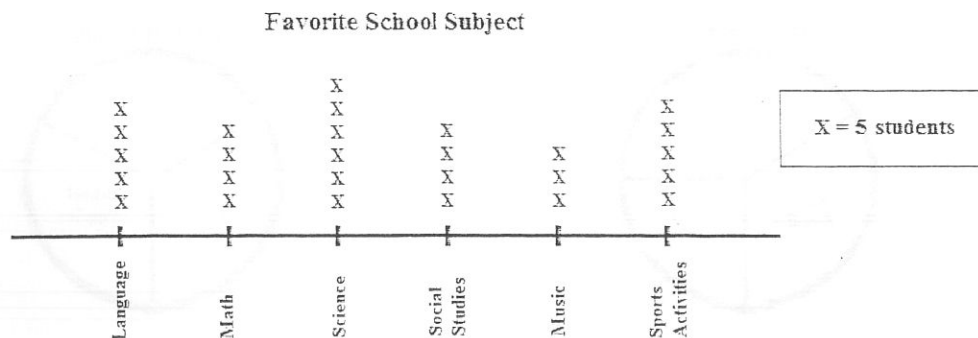
24. Stephen researched the topic of solar-powered lights for his science project. He exposed 10 new solar lights to five hours of sunlight. He recorded the number of minutes each light continued to shine after dark in the list below.

63, 67, 73, 75, 80, 91, 63, 72, 79, 87

Which of these numbers is the mean of the number of minutes in Stephen's list?

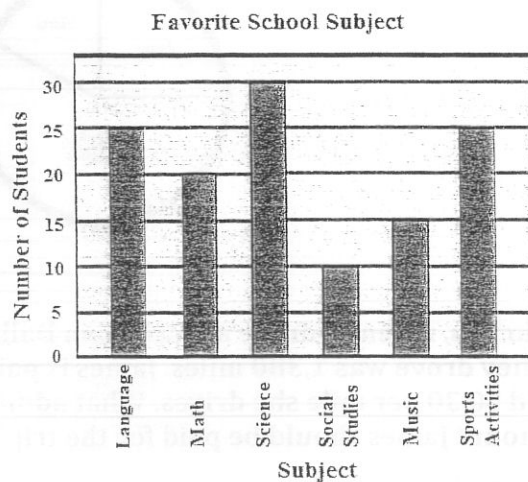
- (A) 28
- (B) 63
- (C) 74
- (D) 75

25. Grade 6 students at Fairview Middle School were asked to name their favorite of six school subjects. The plot below shows a summary of their answers. Each X represents 5 students.

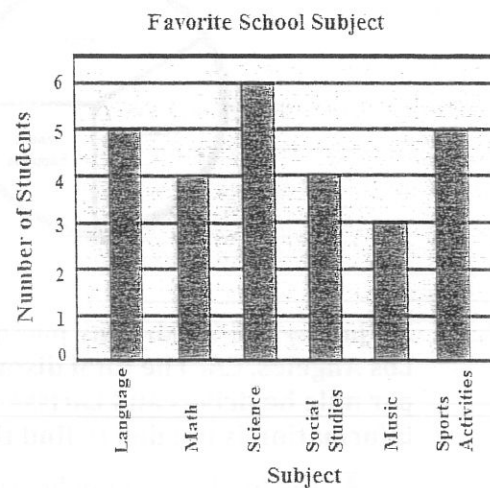


Which graph best represents the data in the plot?

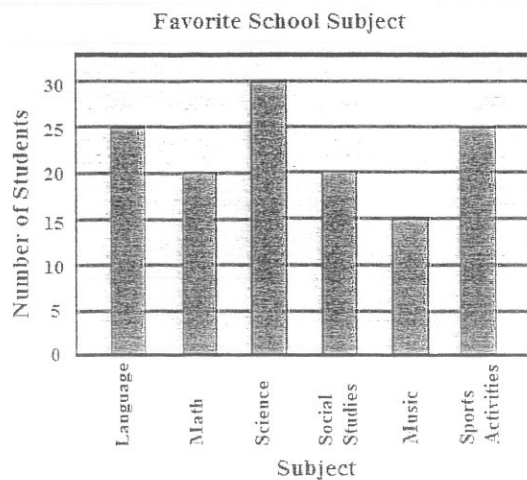
(A)



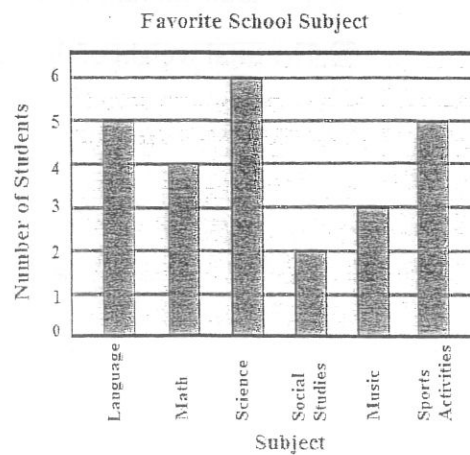
(C)



(B)

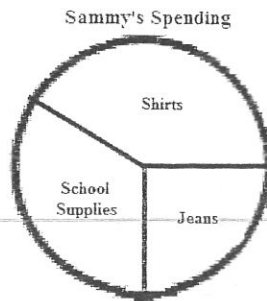


(D)

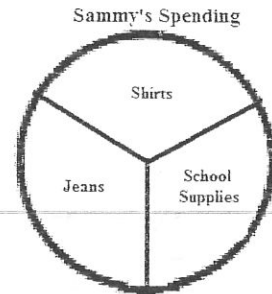


26. Sammie had \$120 he had earned doing chores for people in his neighborhood. When school started, he spent \$50 for shirts, \$30 for jeans, and \$40 for school supplies. Which graph best represents how Sammy spent his \$120?

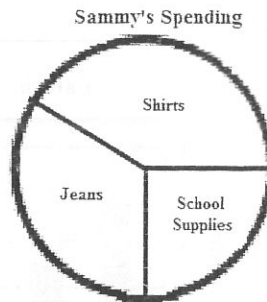
(A)



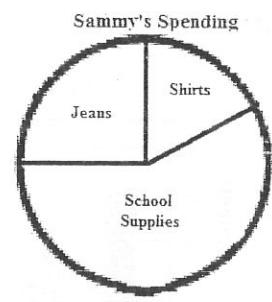
(C)



(B)



(D)



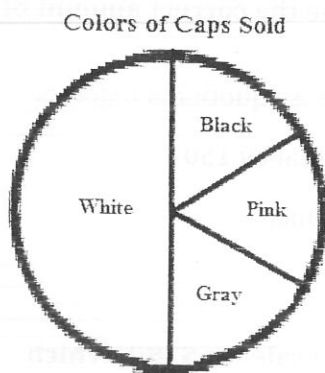
27. James and his driving partner, Larissa, recently drove a truck from Dallas, TX to Los Angeles, CA. The total distance they drove was 1,380 miles. James is paid \$0.35 per mile he drives and Larissa is paid \$0.30 per mile she drives. What additional information is needed to find the amount James should be paid for the trip?

- (A) The total number of hours each person drove
- (B) The total number of miles each person drove
- (C) The total amount of fuel the truck used
- (D) The total weight of the truck and cargo

28. Petra installed 10 light fixtures at a new warehouse that was being built. Each of the fixtures required 3 light bulbs. The bulbs come in packages of 5 and cost \$8 per package. What was the total cost for the bulbs required for all of the fixtures Petra installed at the warehouse?

- (A) \$16
- (B) \$48
- (C) \$120
- (D) \$240

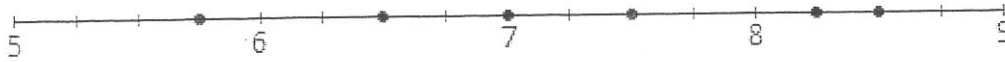
29. Anna and other members of her club sold caps to commemorate their city's 100<sup>th</sup> birthday. The caps sold for \$14 and came in four colors. The club made \$3,360 in total sales from selling the caps. The graph below shows the part of the total sales that each color represented.



Which number is closest to the combined number of white and pink caps sold by Anna's club members?

- (A) 40
- (B) 80
- (C) 120
- (D) 160

30. Gabe has 6 pencils. The lengths of his pencils in inches are shown on the number line below. What is the mean length of the pencils?



- (A) 7 in.
- (B)  $7\frac{1}{4}$  in.
- (C)  $7\frac{1}{2}$  in.
- (D)  $6\frac{3}{4}$  in.

31. Jason wants to put dry fertilizer on the grass in his front yard. The yard is 20 feet wide and 45 feet long. Each pound of the fertilizer he plans to use is enough for 150 square feet. Which procedure could Jason use to determine the correct amount of fertilizer to use on the entire yard?

- (A) Divide 150 by 20 and divide 150 by 45, and then add those quotients together
- (B) Add 20 and 45, double that total, and then divide that total by 150
- (C) Multiply 20 by 45, and then subtract 150 from that product
- (D) Multiply 20 by 45, and then divide that product by 150

32. An electronics store sells laptops for \$475. They are on sale for \$380. Which equation below represents this? Let  $r$  represent the regular price of laptops and  $s$  represent the sale price.

- (A)  $r = .8s$
- (B)  $s = .2r$
- (C)  $s = .7r$
- (D)  $s = .8r$

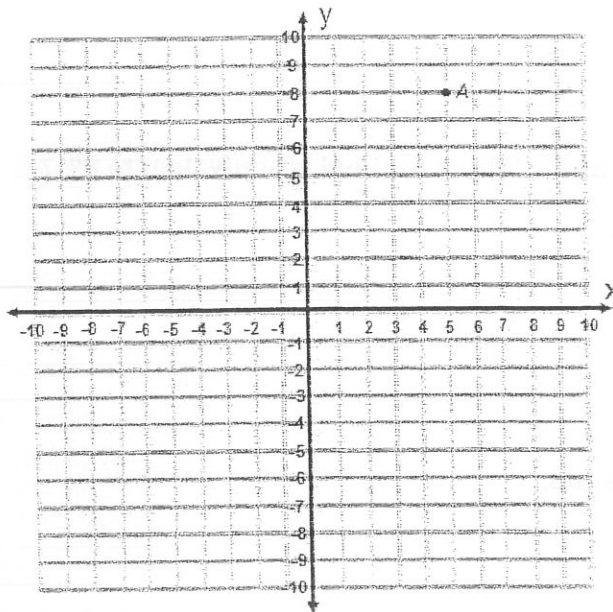
33. Kerianne collected the weights of her friends. What is the range of her friends' weight?

55 lbs, 63 lbs, 48 lbs, 72 lbs, 61 lbs, 68 lbs

34. What is the greatest common factor of 66 and 24?

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35. Point A on the graph below is reflected across the x-axis and then translated 3 units left. At what coordinates does it end up?



- (A) (2,8)
- (B) (2,-8)
- (C) (-2,8)
- (D) (5,-8)

36. Candace's shoelace broke. She measured the unbroken shoelace and finds that she needs a replacement lace that is at least 16 inches long. The store has the following lengths available.

$$15\frac{7}{10}, 16.25, \frac{47}{3}, 15.5$$

Which one of the following lace lengths would be long enough to replace the broken shoelace?

- (A)  $15\frac{7}{10}$
- (B) 16.25
- (C)  $\frac{47}{3}$
- (D) 15.5

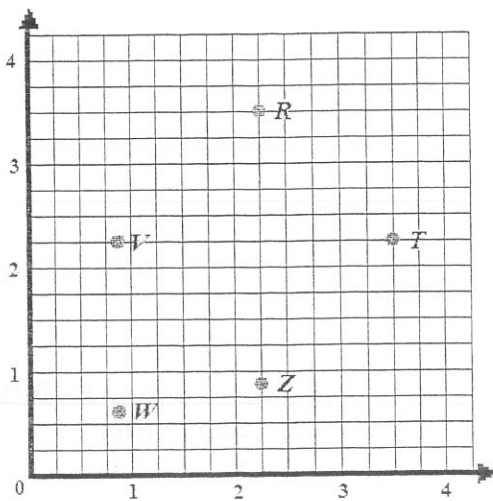
37. Nadia is working summer jobs. She earns \$5 for every dog she walks, \$2 for bringing back a trashcan, \$1 for checking the mail, and \$5 for watering the flowers. Nadia walks 3 dogs, brings back 5 trashcans, checks the mail for 10 neighbors, and waters the flowers at 6 houses. Which expression can be used to find out how much money Nadia earned?

- (A)  $\$2(5) + \$6(10) + \$1$
- (B)  $\$10(6) + \$1 + \$5$
- (C)  $\$5(3+6) + \$2(5) + \$1(10)$
- (D)  $\$15 + \$10 + \$16$

38. Only 8% of the dogs were solid white. Which decimal is equivalent to 8%?

- (A) 0.08
- (B) 80.0
- (C) 8.0
- (D) 0.8

39. Use this grid to answer the question.

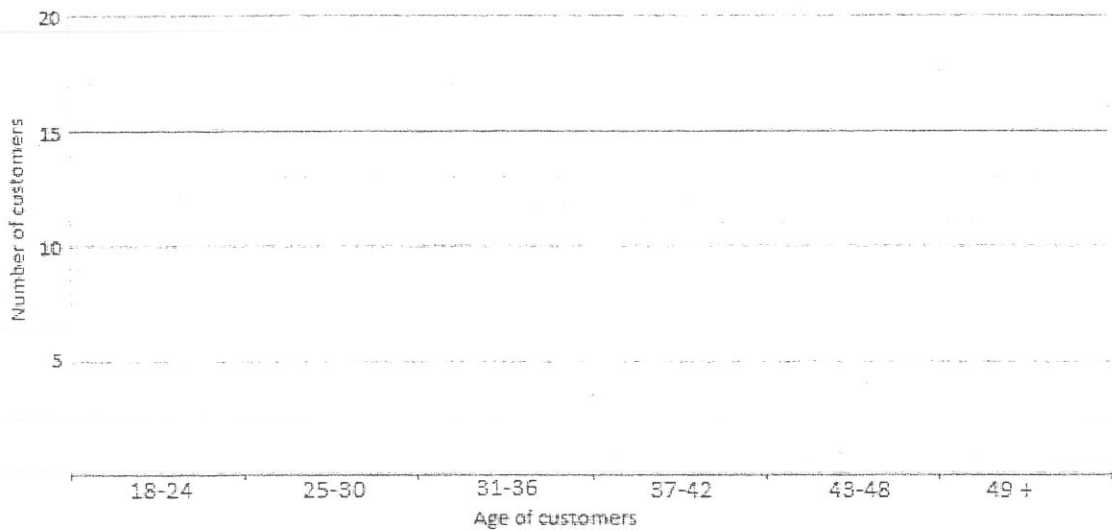


Which of the points on the grid best represents the point at  $(2\frac{1}{4}, \frac{7}{8})$ ?

- (A) T
- (B) V
- (C) W
- (D) Z

40. Part A: A restaurant is trying to attract a younger crowd. They think that they have managed to attract more young people but wanted to graph their results to see. The ages of 40 guests are given below. Create a histogram to show the results.

23	26	21	42	35	29	53	31
19	24	27	30	22	37	21	25
22	26	30	34	27	20	50	41
32	23	18	20	39	22	33	35
25	30	27	19	24	42	47	21



Part B: If they wanted the median age of the customers to be in the 24-30 range were they successful?

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