

2015 Penny Sikes Math Tournament

5th Grade Exam

1. Mrs. Perkins makes study guides for her class of 21 students. She uses 252 sheets of paper. How many sheets of paper are in each study guide?

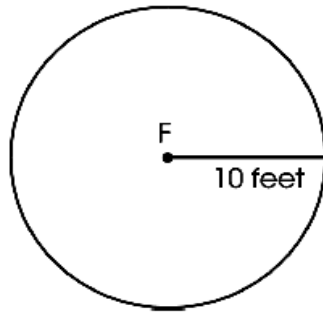
[A] 12 sheets

[B] 231 sheets

[C] 273 sheets

[D] 5,292 sheets

2. Point F is the center of the circle shown. What is the diameter of the circle?



[A] 10 feet

[B] 20 feet

[C] 30 feet

[D] 100 feet

3. Subtract: 56

-23.89

[A] 32.89

[B] 23.33

[C] 32.11

[D] 33.01

4. Lobster sells for \$9.25 per pound. Jimmy pays for a 3-pound lobster with a \$50 bill. How much change should he receive?

[A] \$22.25

[B] \$23.25

[C] \$33.25

[D] \$40.75

5. Simplify: $\frac{5}{12} + \frac{2}{15}$

[A] $\frac{7}{60}$

[B] $\frac{11}{60}$

[C] $\frac{13}{20}$

[D] $\frac{11}{20}$

6. Which of the following is equal to 115 millimeters?

[A] 1.15 centimeters

[B] 0.115 meters

[C] 0.115 kilometers

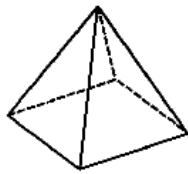
[D] 1.15 meters

7. Which of the following is a prism?

[A]



[B]



[C]



[D]



8. Simplify: $4\frac{1}{2} \times 3\frac{1}{3}$

[A] 15

[B] $12\frac{1}{6}$

[C] $15\frac{1}{3}$

[D] $15\frac{2}{3}$

9. What is the prime factorization of 72?

[A] $2 \times 3 \times 12$

[B] $2^3 \times 3^2$

[C] $2 \times 3^2 \times 4$

[D] 3×24

10. Our solar system is part of the Milky Way galaxy which is estimated to contain more than one hundred billion stars. How would this number be written?

[A] 100,000

[B] 100,000,000

[C] 100,000,000,000

[D] 100,000,000,000,000

11. Simplify: $(10,000)(0.00012)$

[A] 1.2

[B] 0.12

[C] 0.0012

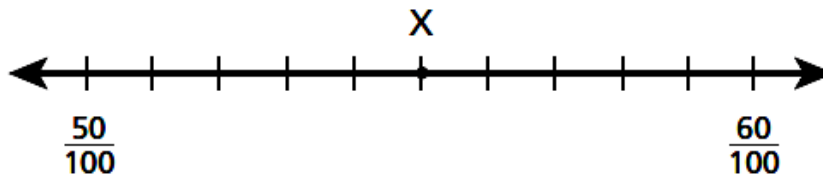
[D] 0.000012

12. Ron recorded the number of laps he ran each day for 5 days, as shown below. What is the mean number of laps that Ron ran each day for the 5 days?

2, 7, 8, 8, 5

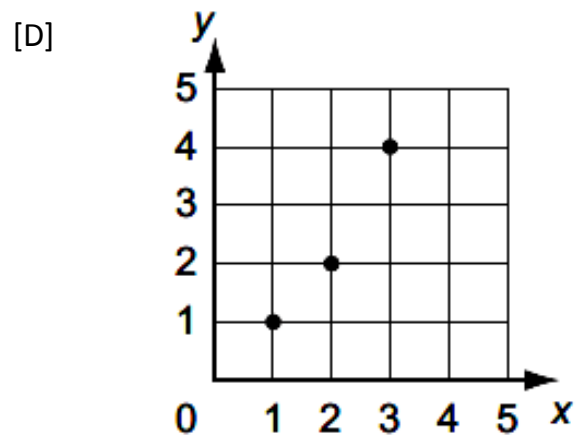
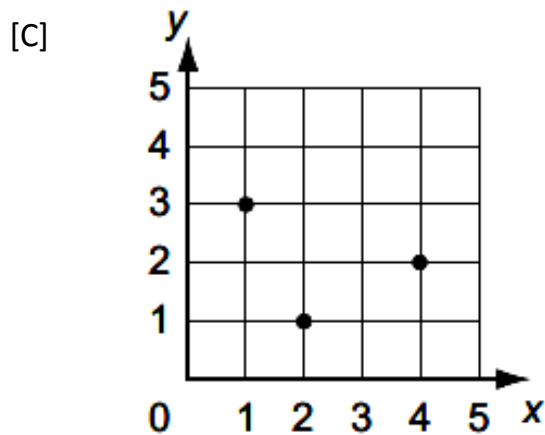
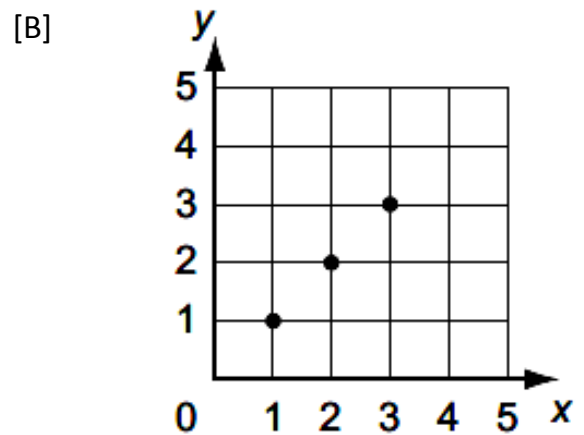
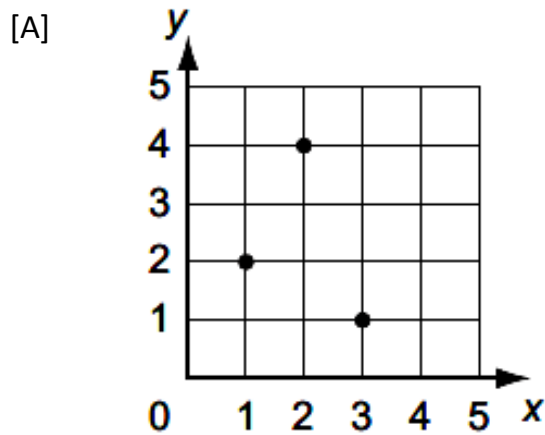
- [A] 5 [B] 6 [C] 7 [D] 8

13. Which decimal best represents the location of point X on the number line below?

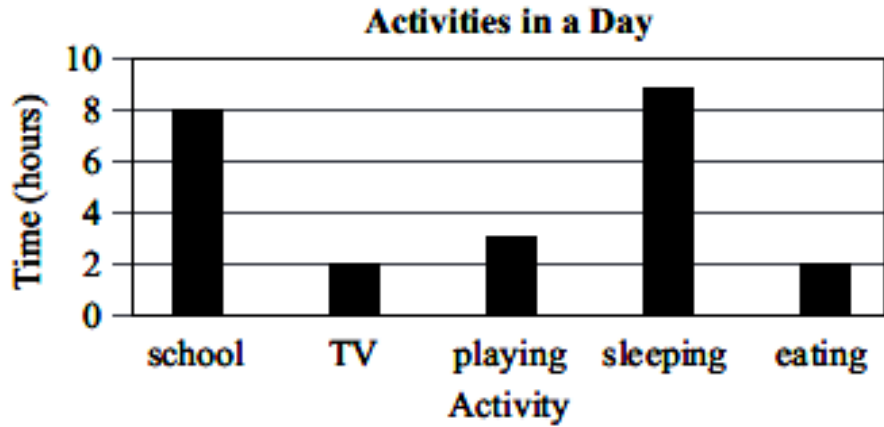


- [A] 0.5 [B] 0.55 [C] 0.56 [D] 0.6

14. Which coordinate grid shows the points (1, 2), (2, 4), and (3, 1) graphed correctly?



15. Use the graph below to answer the question.

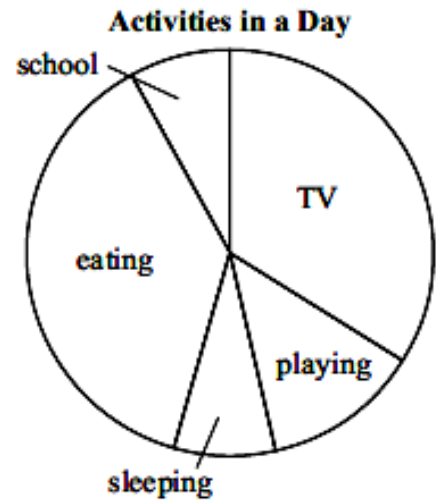


Which circle graph could represent the information in the bar graph?

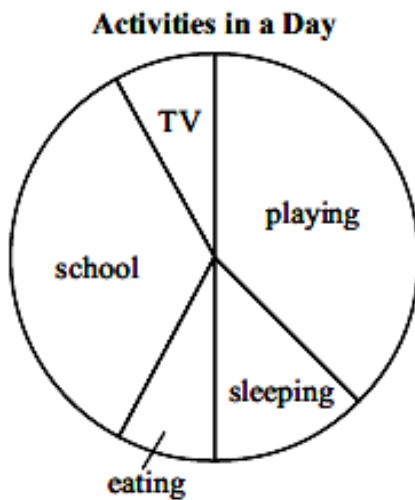
[A]



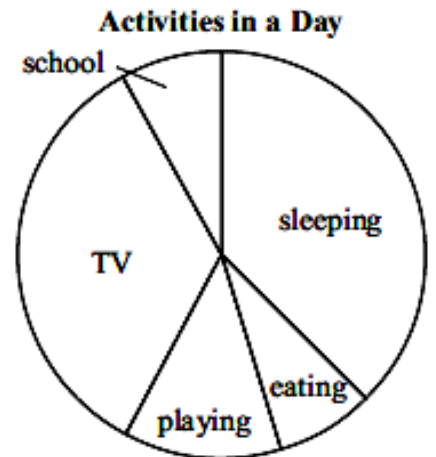
[B]



[C]



[D]



16. Rebecca swims a total of 13 kilometers each week. What is the total number of meters Rebecca swims in 3 weeks?

[A] 39 m

[B] 13,000 m

[C] 3,900 m

[D] 39,000 m

17. Vince has $\frac{8}{12}$ of a tank of gasoline left in his car. Which fraction is greater than $\frac{8}{12}$?

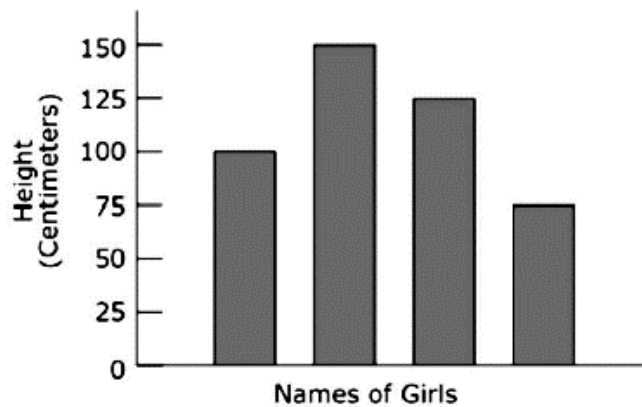
[A] $\frac{5}{6}$

[B] $\frac{2}{3}$

[C] $\frac{8}{16}$

[D] $\frac{9}{24}$

18. The graph shows the heights of four girls.



The names are missing from the graph. Debbie is the tallest. Amy is the shortest. Dawn is taller than Sarah. How tall is Sarah?

[A] 75 cm

[B] 100 cm

[C] 125 cm

[D] 150 cm

19. Which expression shows 40.54 in expanded form?

[A] $(4 \times 10) + (5 \times \frac{1}{10}) + (4 \times \frac{1}{100})$

[B] $(4 \times 1) + (5 \times \frac{1}{10}) + (4 \times \frac{1}{100})$

[C] $(4 \times 10) + (5 \times 1) + (4 \times \frac{1}{100})$

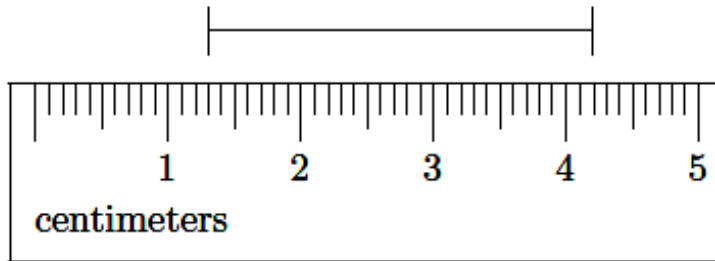
[D] $(4 \times 10) + (5 \times 1) + (4 \times \frac{1}{10})$

20. Multiply: 3.42

$$\begin{array}{r} \times 2.2 \\ \hline \end{array}$$

- [A] 1.368 [B] 6.424 [C] 7.428 [D] 7.524

21. How long is the segment?

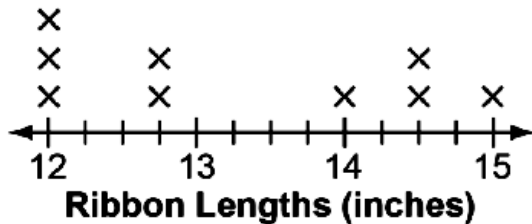


- [A] 2.3 cm [B] 2.9 cm [C] 3.2 cm [D] 4.2 cm

22. Arrange these fractions in order from largest to smallest: $\frac{4}{15}, \frac{2}{5}, \frac{1}{3}$

- [A] $\frac{4}{15}, \frac{2}{5}, \frac{1}{3}$ [B] $\frac{4}{15}, \frac{1}{3}, \frac{2}{5}$ [C] $\frac{2}{5}, \frac{1}{3}, \frac{4}{15}$ [D] $\frac{1}{3}, \frac{4}{15}, \frac{2}{5}$

23. A line plot with Kelly's lengths of ribbons is shown.



What is the total length, in inches, for all pieces of ribbon?

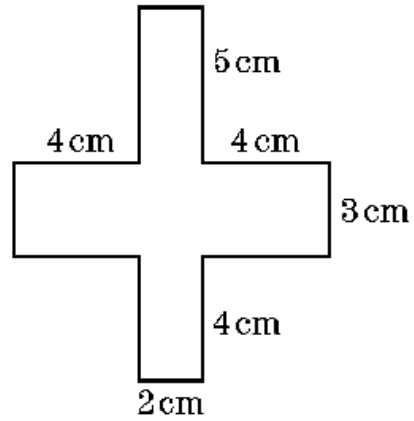
- [A] 54 in [B] 68.25 in [C] 116.5 in [D] 119.5 in

24. Antonio colored 36 of the 60 pictures in her coloring book. Which fraction is **NOT** equivalent to the fraction of pictures Antonio colored?

- [A] $\frac{6}{10}$ [B] $\frac{3}{5}$ [C] $\frac{8}{20}$ [D] $\frac{18}{30}$

25. What is the perimeter of the polygon shown?

- [A] 22 cm [B] 36 cm
[C] 40 cm [D] 44 cm



26. Which of the following is the set of *all* prime numbers less than 12?

- [A] {1, 2, 3, 5, 7, 11} [B] {1, 3, 5, 7, 9, 11}
[C] {2, 3, 5, 7, 11} [D] {3, 5, 7, 9, 11}

27. Simplify: $\frac{3}{4} \div 3$

- [A] $\frac{1}{4}$ [B] $\frac{3}{4}$ [C] 1 [D] $2\frac{1}{3}$

28. What part of an hour elapses between 3:45 pm and 4:09 pm?

- [A] $\frac{2}{5}$ [B] $\frac{5}{12}$ [C] $\frac{1}{24}$ [D] 24

29. If 1 square = 2 circles and 1 triangle = 3 circles, how many circles would need to be placed on the other side of the scale to balance the scale?



- [A] 10 [B] 8 [C] 6 [D] 3

30. Choose a reasonable metric unit to measure the length of a crayon?

- [A] millimeters [B] centimeters [C] meters [D] kilometers

31. Find the algebraic expression that represents six more than three times y .

- [A] $6 \cdot 3y$ [B] $6 \div 3y$ [C] $6 - 3y$ [D] $6 + 3y$

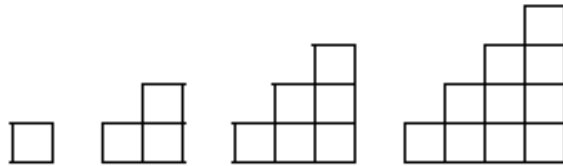
32. Which of the following has the greatest value?

- [A] 0.003093 [B] 0.03039 [C] 0.3093 [D] 0.30093

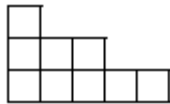
33. What is the correct way to express $1\frac{7}{25}$ as a decimal?

- [A] 1.28 [B] 1.375 [C] 1.425 [D] 1.725

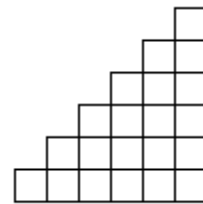
34. What comes next in this sequence?



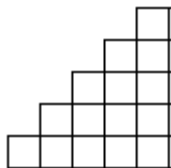
[A]



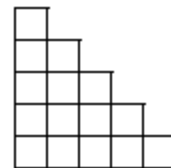
[B]



[C]



[D]



35. The bed in Willie's dorm room is 6.9 feet long and 4.1 feet wide. What is its area?

- [A] 11 ft^2 [B] 22 ft^2 [C] 28.29 ft^2 [D] 33.53 ft^2

40. The table below shows the input and output values of various numbers.

Input	1.8	2.4	4.0	5.5	7.0
Output	5.4	7.2	12.0	16.5	?

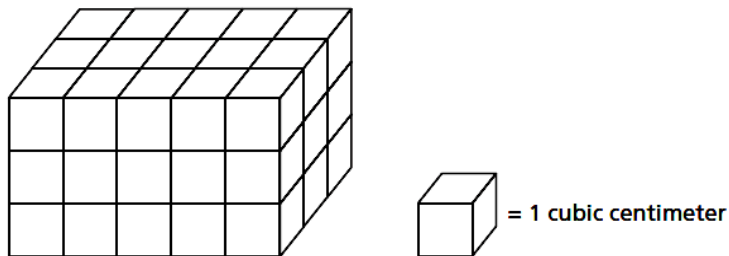
Look for the rule. What number completes the table?

- [A] 4.2 [B] 6.4 [C] 21 [D] 20

41. The gas tank in Juanita's car holds 12.7 gallons of gasoline. If her car is averaging 28.2 miles per gallon, how far can she drive on a full tank of gas?

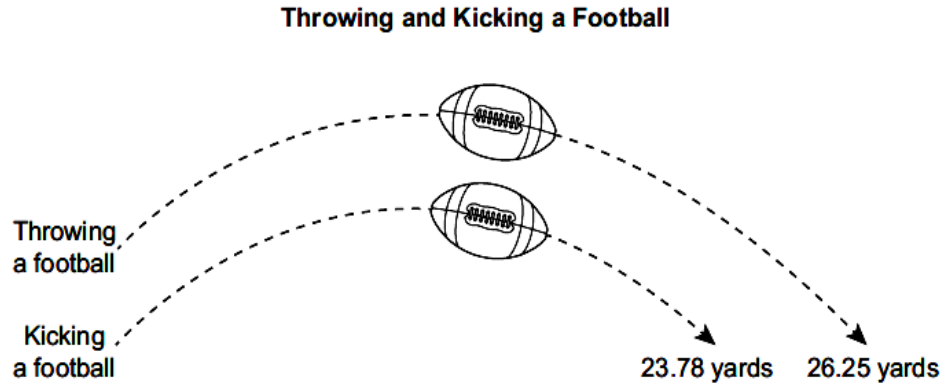
- [A] 352.04 miles [B] 358.14 miles
[C] 388.64 miles [D] 391.54 miles

42. What is the volume, in cubic centimeters, of the figure below?



- [A] 39 cm^2 [B] 45 cm^2 [C] 39 cm^3 [D] 45 cm^3

43. Asha measured the distances she threw and kicked a football. A diagram of her results is shown below.



How much farther, in yards, did she throw the football than kick it?

- [A] 2.47 yards [B] 2.57 yards [C] 3.53 yards [D] 3.57 yards

44. Mr. Morris built a fence to enclose his yard. He put up $\frac{3}{4}$ of the fence on Monday. On Tuesday, he put up $\frac{1}{6}$ of the fence, and on Wednesday, he put up the rest of the fence. What portion of the fence did he put up on Wednesday?

- [A] $\frac{11}{12}$ [B] $\frac{3}{5}$ [C] $\frac{2}{5}$ [D] $\frac{1}{12}$

45. The school cafeteria offers a variety of foods as shown in the table. How many different meals can be ordered consisting of 1 meat and 1 drink?

<i>meat</i>	<i>side dish</i>	<i>drink</i>	<i>dessert</i>
burritos	beans	juice	ice cream
hamburgers	fries	milk	jello
chicken	rice	soda	pie
fish		tea	
pizza			

- [A] 180 [B] 80 [C] 40 [D] 20

46. Mr. Lucci put together 5 bags of pens. He put 19 black pens and 12 red pens in each bag. Which expression shows the total number of pens Mr. Lucci put into the bags?

[A] $(5 \times 19) + 12$

[B] $5 \times (19 + 12)$

[C] $5 + (19 \times 12)$

[D] $(5 + 19) \times 12$

47. Sam surveyed his friends and found that 7 out of 10 have a pet. What percent of Sam's friends have a pet?

[A] 0.07%

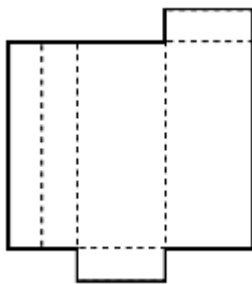
[B] 0.7%

[C] 7%

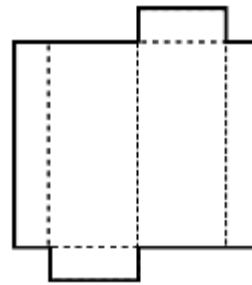
[D] 70%

48. Which figure shows the net for a rectangular prism?

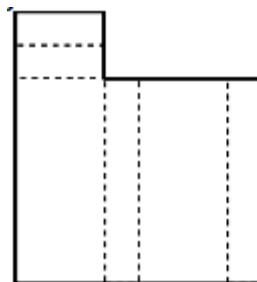
[A]



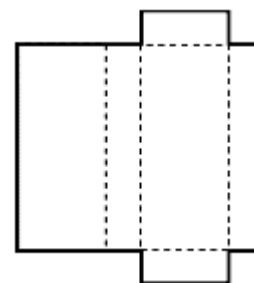
[B]



[C]



[D]



49. Ms. Jones had \$100. She spent $\frac{1}{4}$ of her money at the market and $\frac{1}{2}$ at the mall. What percent of the \$100 did Ms. Jones have left?

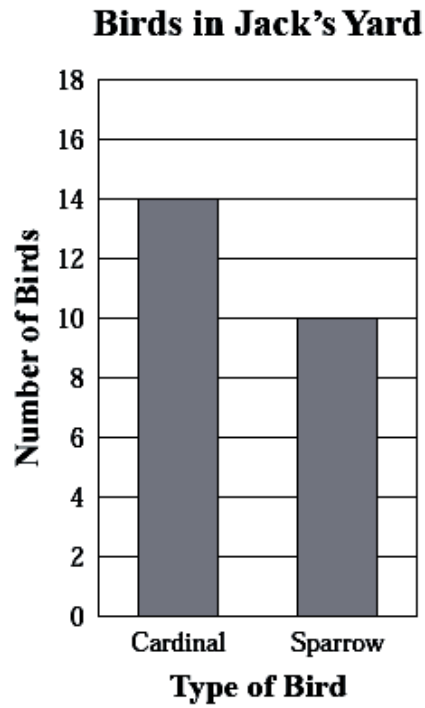
[A] 80%

[B] 75%

[C] 60%

[D] 25%

50. Jack counted the number cardinals and sparrows he saw in his yard in one week. His results are displayed in the bar graph below.



What fraction of the birds are sparrows?

[A] $\frac{5}{12}$

[B] $\frac{5}{7}$

[C] $\frac{7}{12}$

[D] $\frac{7}{5}$

5th Grade Test - ANSWER KEY

1. A	18. B	35. C
2. B	19. A	36. B
3. C	20. D	37. C
4. A	21. B	38. D
5. D	22. C	39. B
6. B	23. D	40. C
7. D	24. C	41. B
8. A	25. D	42. D
9. B	26. C	43. A
10. C	27. A	44. D
11. A	28. A	45. D
12. B	29. B	46. B
13. B	30. B	47. D
14. A	31. D	48. D
15. A	32. C	49. D
16. D	33. A	50. A
17. A	34. C	