



THIRD SPACE  
LEARNING

# 5th Grade North Carolina State Practice Math Test

North Carolina Practice Test  
Grade 5

Grade 5

Questions

Name: ..... Class: .....

Date: ..... Score: .....

No Calculator For Questions 1 - 22



The table below lists the prices of some of the top selling fruits at the grocery store.

| Item         | Size            | Price  |
|--------------|-----------------|--------|
| Bananas      | 1 bunch         | \$0.72 |
| Blueberries  | 10 oz container | \$3.99 |
| Strawberries | 16 oz container | \$4.89 |
| Avocado      | 1 avocado       | \$1.29 |
| Watermelon   | 1 watermelon    | \$3.87 |
| Oranges      | 4 lb bag        | \$5.75 |

- 1
- How much would it cost to buy 5 bunches of bananas and 3 avocados?
- A. \$4.89
  - B. \$7.47
  - C. \$8.61
  - D. \$6.71

- 2 Janie and five friends shared 30 cookies. Which expression shows how to find how many cookies each person got?

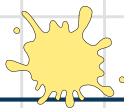
A.  $30 \div 6$   
B.  $30 \div 5$   
C.  $6 \times 30$   
D.  $5 \times 30$

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- 3 Hadley has three ribbons of the same length. She is not sure of the exact length, but knows the length is less than 1 foot. Which could be the total length of all three ribbons?

A.  $3\frac{1}{2}$  ft  
B. 3 ft  
C.  $4\frac{2}{3}$  ft  
D.  $1\frac{2}{5}$  ft

- 4 Santiago found the product of 419 and 86. His work is shown below. His teacher was unable to read one of the numbers in the work.

|   |   |                |   |   |   |
|---|---|----------------|---|---|---|
|   |   |                | 1   | 7 |   |
|   |   |                | 1   | 5 |   |
|   |   |                | 4   | 1 | 9 |
|   | × |                |   | 8 | 6 |
|   |   |                |   |   |   |
|   |   | <sup>1</sup> 2 | 5   | 1 | 4 |
| + | 3 | 3              |  | 2 | 0 |
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What number belongs in the box where the number the teacher can't read is?

- A. 0
  - B. 9
  - C. 5
  - D. 3
- 
- 5 Which expression shows '6 less than the quotient of 24 and 4'?

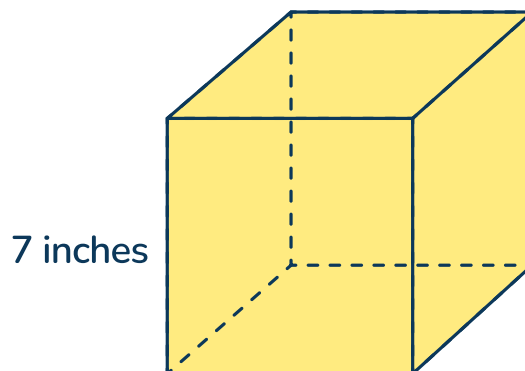
- A.  $(24 \div 4) - 6$
- B.  $6 - (24 \div 4)$
- C.  $(24 \times 4) - 6$
- D.  $6 - (24 \times 4)$



- 6 Javier built a new garden bed in his backyard. He needs to fill it with  $9\frac{1}{4}$  cubic yards of soil. He has already poured in  $6\frac{7}{12}$  cubic yards of soil. How much more soil does he need to pour in to fill the garden bed? Answer in lowest terms.

- A.  $2\frac{5}{6}$  cubic yards
- B.  $3\frac{3}{4}$  cubic yards
- C.  $3\frac{1}{3}$  cubic yards
- D.  $2\frac{2}{3}$  cubic yards
- 

- 7 Which expression represents the volume, in cubic inches, of this cube?



- A.  $7 \times 6$
- B.  $7 \times 7 \times 7$
- C.  $6 \times (7 + 7 + 7 + 7)$
- D.  $7 + 7 + 7 + 7 + 7 + 7$

8 Complete the statement:

The 4 in 67.04 is \_\_\_\_ times the size of the 4 in 14.06.

A. 100

B.  $\frac{1}{10}$

C. 10

D.  $\frac{1}{100}$

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9 Carson has been measuring a plant for a science project. The flower has grown  $\frac{1}{4}$  of a foot each week and has grown a total of 2 feet taller. How many weeks has Carson been measuring this plant?

A. 8 weeks

B.  $\frac{1}{8}$  of a week

C. 2 weeks

D. 4 weeks

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10 Micah and four friends go out to eat at a restaurant. At the end of the meal, the total bill is \$82.40. They decide to split the bill equally. How much will each person pay?

A. \$20.60

B. \$30.50

C. \$16.48

D. \$16.60

11 In a warehouse, there are 532 boxes. Each box has 19 cans of vegetables. How many cans of vegetables are in the warehouse?

- A. 16,208
- B. 10,108
- C. 5,320
- D. 10,098

12 The table below shows the weight of 4 puppies.

| Puppy | Weight (pounds) |
|-------|-----------------|
| 1     | 8.93            |
| 2     | 7.119           |
| 3     | 7.39            |
| 4     | 8.9             |

Which comparison of these weights is NOT correct?

- A.  $8.93 > 8.9$
- B.  $7.119 < 7.39$
- C.  $8.9 > 7.119$
- D.  $7.39 < 7.119$

- 13 Jocelyn wrote down two patterns.

Pattern A: 0, 15, 30, 45, 60...

Pattern B: 0, 5, 10, 15, 20...

Which statement correctly compares Jocelyn's patterns?

- A. The numbers in both patterns alternate between odd and even.
  - B. The numbers in both patterns start odd, then become even.
  - C. The numbers in Pattern B are 10 more than the numbers in Pattern A.
  - D. The numbers in Pattern B are 5 times the numbers in Pattern A.
- 

- 14 Three chocolate bars are shared equally between 7 people. What fraction of chocolate bar will each person get?

A.  $\frac{1}{7}$

B.  $\frac{3}{7}$

C.  $\frac{7}{3}$

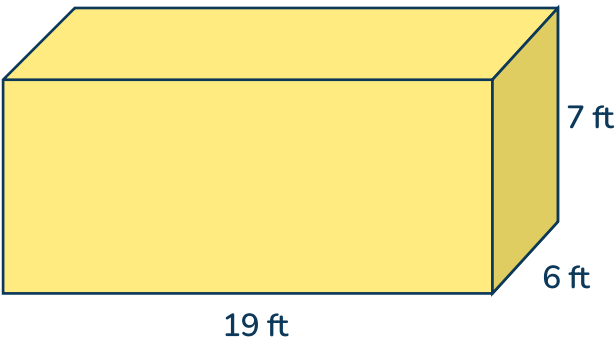
D.  $\frac{1}{3}$

15 What number is two hundred eight and six hundred four thousandths?

- A. 208,604
- B. 208,064
- C. 208.604
- D. 208.064

For questions 16–22, write your answers in the boxes given.  
In each box, write only one number or symbol.

16 What is the volume of the rectangular prism?



Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

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17 How many gallons are in 52 cups?  
(Note: 1 gallon = 16 cups)

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

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18 There are 757 kids going to a soccer summer camp. The kids will be put into teams of 22. How many groups of 22 will be made?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

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19 Balbir is cutting a 12 foot long piece of wood into 7 equal parts. How long is each piece of wood?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

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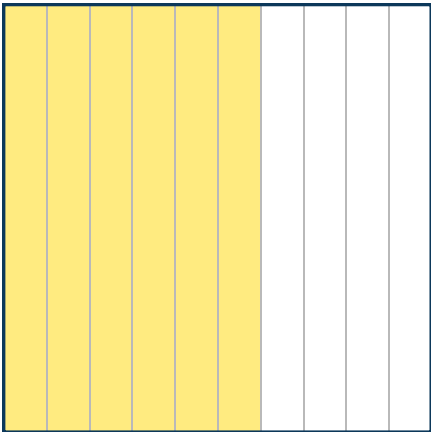
20 A warehouse has 459 boxes of school supplies. Each box has 34 packs of pencils. How many packs of pencils does the warehouse have?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

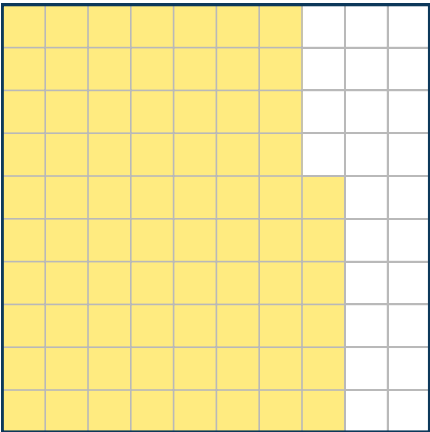
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21

Madelyn's paper



Frederick's paper



Madelyn and Frederick had the same size papers. They each shaded part of their papers.

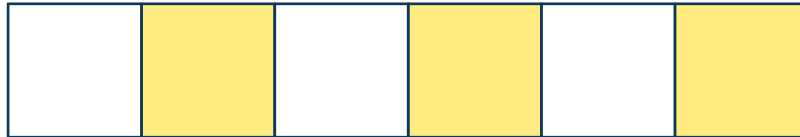
How many whole pages did Madelyn and Frederick shade together? Record your answer as a decimal.

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

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- 22 Fatima pours  $\frac{1}{3}$  of a liter of juice into 4 cups. If each glass has the same amount of juice, what fraction of a liter of juice is in each cup?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ., and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.



THIS IS THE END OF CALCULATOR INACTIVE QUESTIONS



THIS IS THE BEGINNING OF CALCULATOR ACTIVE QUESTIONS

Calculator Can Be Used For Questions 23 - 45

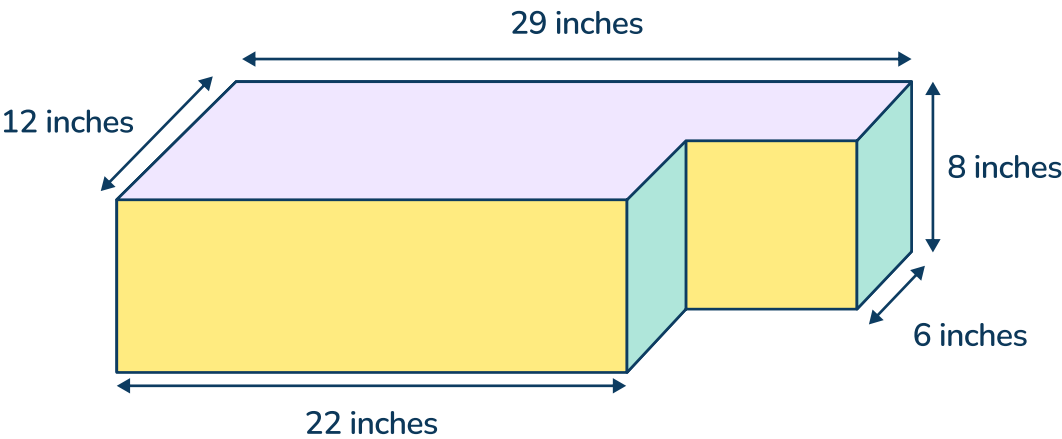


For questions 23-26, write your answers in the boxes given.  
Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

23 Jessica used  $\frac{4}{5}$  of a cup of sugar to make cookies. She also used  $\frac{2}{3}$  of a cup of sugar to make a cake. Then she had  $\frac{1}{2}$  of a cup of sugar left. How many cups of sugar did Jessica start with?

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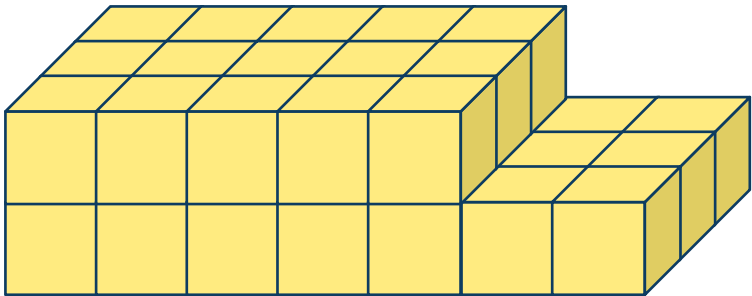
24



A pet store ordered a new fish tank. How much water, in cubic inches, is needed to fill up the tank?

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- 25 The composite shape below is made up of unit cubes. What is the volume, in cubic units, of the composite shape?



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- 
- 26 Daliah’s orchard has 851 peaches ready to sell. The peaches will be put in boxes of 26 and sold for \$7.50 per box. How many full boxes of peaches can Daliah make?

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|--|--|--|--|--|--|

- 27 Mia volunteers at a zoo. She helps feed the animals based on the following rules.

- A rhino eats  $\frac{4}{3}$  the amount of food as a hippo.
- An buffalo eats  $\frac{3}{4}$  the amount of food as a hippo.

Based on the information above, which statement is true?

- A. A rhino and a buffalo eat the same amount of food.
  - B. A rhino eats more than a buffalo.
  - C. A hippo eats more than a rhino.
  - D. A buffalo eats more than a hippo.
- 

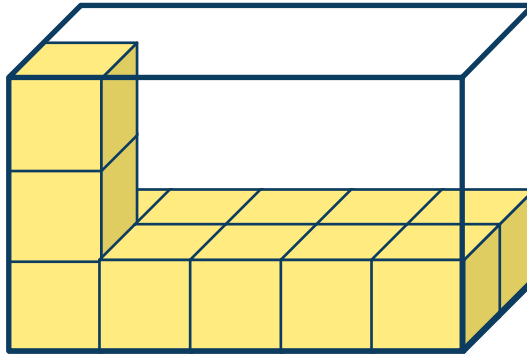
- 28 Which shapes alway have right angles? Select all the correct answers.

- A. parallelogram
  - B. trapezoid
  - C. rectangle
  - D. quadrilateral
- 

- 29 Orlando spent  $2\frac{3}{4}$  hours practicing the piano. How many minutes did Orlando spend practicing the piano?  
(Note: 1 hour = 60 minutes)

- A. 275 minutes
- B.  $120\frac{3}{4}$  minutes
- C. 195 minutes
- D. 165 minutes

- 30 The rectangular prism is partially filled with unit cubes.



What is the volume of the rectangular prism?

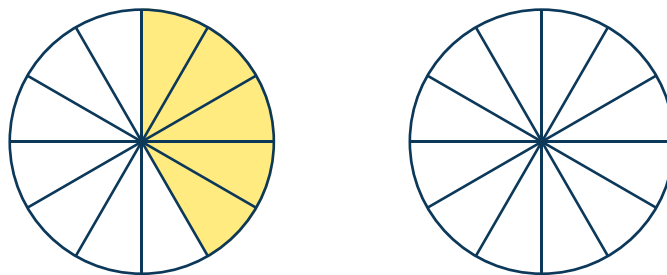
- A. 30 units<sup>3</sup>  
B. 12 units<sup>3</sup>  
C. 15 units<sup>3</sup>  
D. 20 units<sup>3</sup>
- 
- 31 A fruit salad recipe requires  $1\frac{2}{3}$  cups of strawberries. How many cups of strawberries would be needed to make  $4\frac{1}{2}$  fruit salad recipes?

- A.  $6\frac{1}{6}$   
B.  $7\frac{1}{2}$   
C.  $2\frac{5}{6}$   
D.  $4\frac{1}{3}$

- 32 Perry plots the points A (1,7); B (10,7); C (2,2); D (8, 2) on the coordinate grid. Then Perry connects the points to make the shape ABCD. What shape did Perry make?

A. rectangle  
 B. rhombus  
 C. Pentagon  
 D. trapezoid

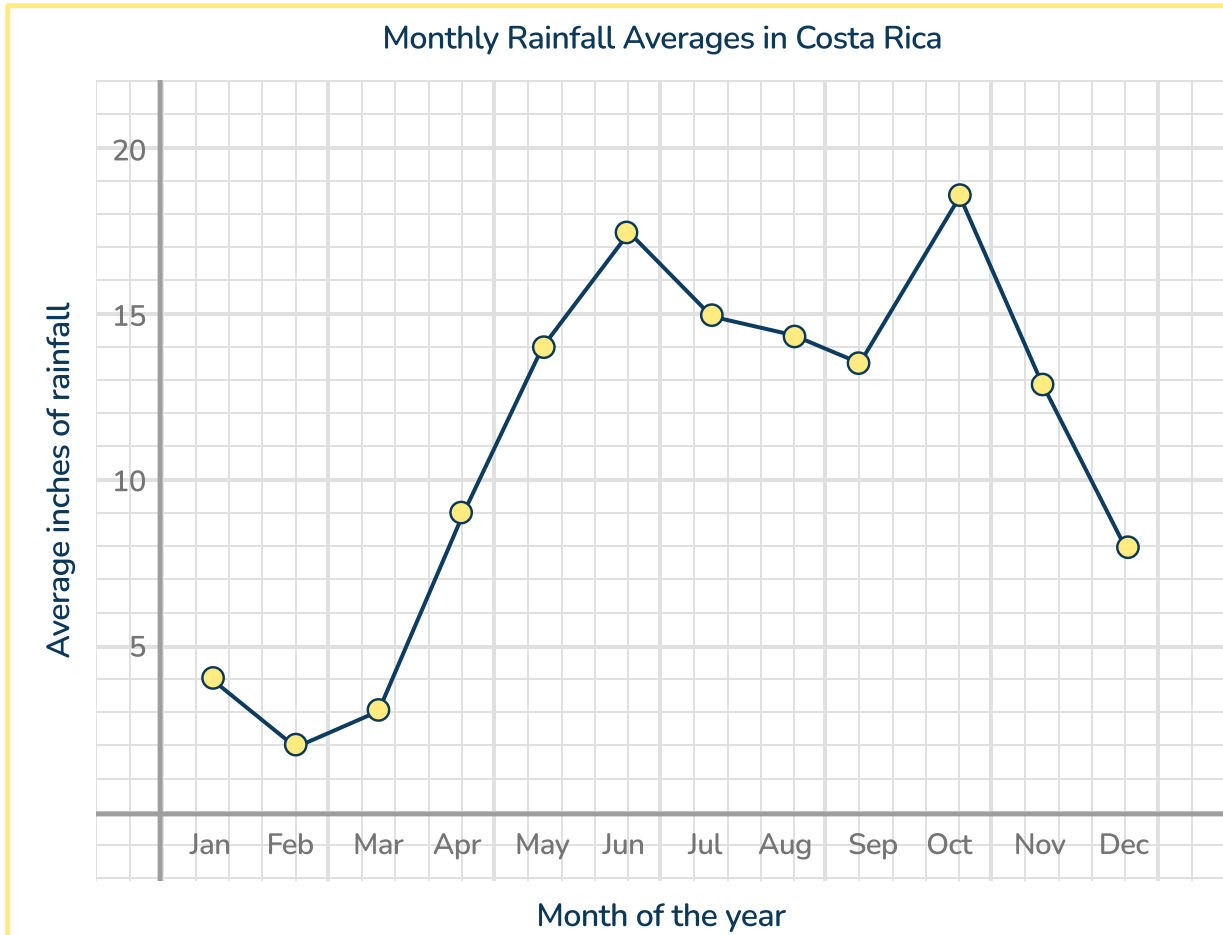
- 33 Mac and her brother ordered two pizzas for dinner. The shaded part of the circle represents the portion of the pizza Mac's brother ate. Mac ate  $\frac{1}{3}$  more than her brother.



How much pizza was left over?

A.  $\frac{1}{4}$   
 B.  $\frac{5}{6}$   
 C.  $1\frac{1}{4}$   
 D.  $1\frac{1}{6}$

34



Which statement about the graph is true?

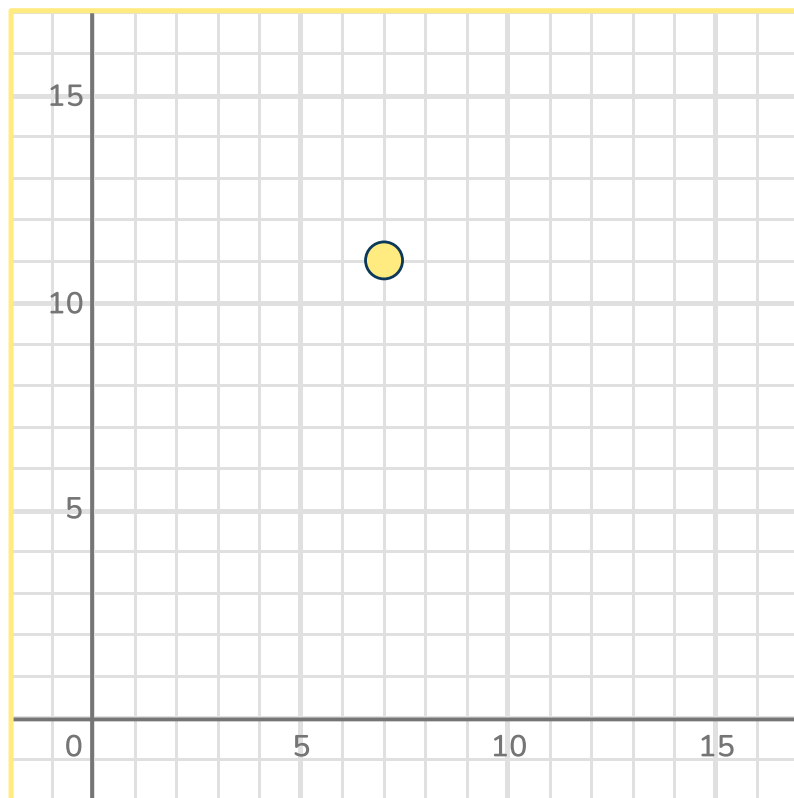
- A. The rainfall is lowest in December.
- B. The rainfall decreases from February to March.
- C. The rainfall is the highest in October.
- D. The rainfall increases from June to July.

35 Peggy has  $\frac{1}{4}$  of a cup of fish food. She uses it to feed 4 fish equally. How much food does each fish get?

Which equation fits the story context?

- A.  $\frac{1}{4} \div 4 = \frac{1}{16}$
- B.  $4 \div \frac{1}{4} = 16$
- C.  $4 \times \frac{1}{4} = 16$
- D.  $\frac{1}{4} \times 4 = \frac{1}{16}$

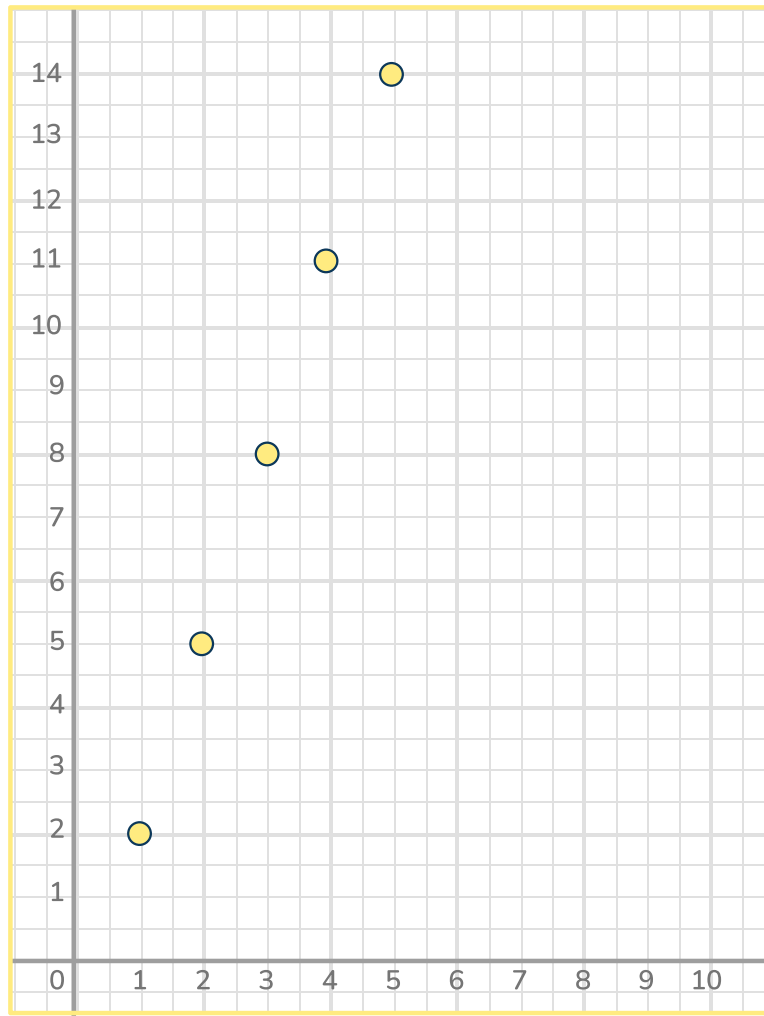
36



What are the coordinates of the point shown?

- A. (6, 12)
- B. (12, 6)
- C. (7, 11)
- D. (11, 7)

- 37 The graph below shows ordered pairs that make up two patterns.



What are the rules for the two patterns shown by the ordered pairs?

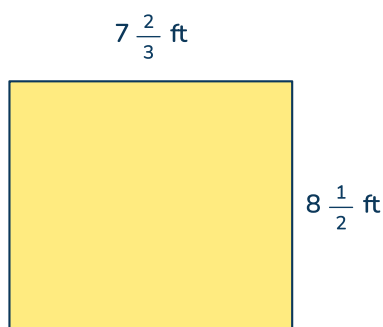
- A.  $x$ -coordinate: Add 1  
 $y$ -coordinate: Add 3
- B.  $x$ -coordinate: Add 3  
 $y$ -coordinate: Add 1
- C.  $x$ -coordinate: Multiply by 1  
 $y$ -coordinate: Multiply by 2
- D.  $x$ -coordinate: Multiply by 2  
 $y$ -coordinate: Multiply by 3



- 38 Giselle's bag of apples weighs 3.52 pounds. Bella's bag of apples weighs 1.08 pounds less than Giselle's bag. How many pounds does Bella's bag weigh?

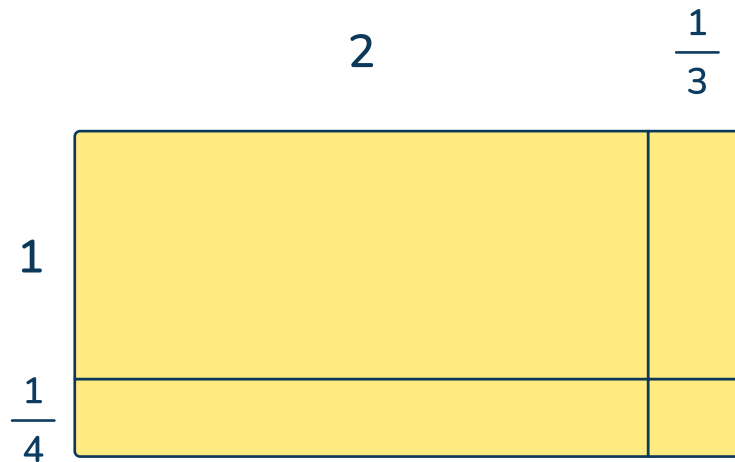
A. 2.56  
 B. 2.44  
 C. 4.6  
 D. 1.72

- 39 Yosef is getting new carpet installed in his bedroom. The diagram below shows the dimensions of his bedroom floor. If the carpet covers the entire floor, what is the area of the carpet?



A.  $56 \frac{1}{3}$  square feet  
 B.  $33 \frac{1}{3}$  square feet  
 C.  $65 \frac{1}{6}$  square feet  
 D.  $58 \frac{1}{3}$  square feet

- 40 Fallon draws the model below to solve  $2\frac{1}{3} \times 1\frac{1}{4}$ .



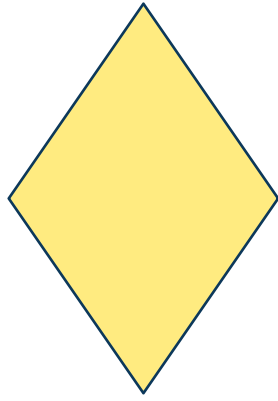
Which expression represents Fallon's area model?

- A.  $2 + 1 + 1 + \frac{1}{12}$
- B.  $1 + 2 + 1 + 2$
- C.  $\frac{2}{12} + \frac{4}{12} + \frac{3}{12} + \frac{1}{12}$
- D.  $2 + \frac{1}{2} + \frac{1}{3} + \frac{1}{12}$

- 41 Which expression has the least value?

- A.  $4.5 \times (3.6 - 3)$
- B.  $4.5 \times 3.6 - 3$
- C.  $3.6 \times (4.5 - 3)$
- D.  $3.6 \times 4.5 - 3$

42



Which name does not describe this shape?

- A. square
- B. rhombus
- C. parallelogram
- D. quadrilateral

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43 What is the correct way to write 902.24 in expanded form?

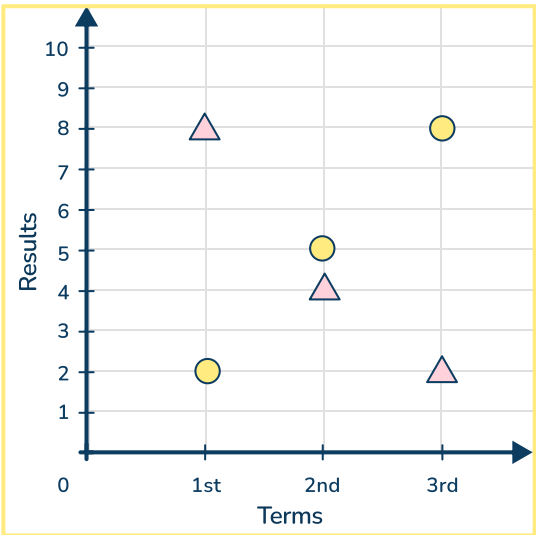
- A.  $9 \times 100 + 2 \times 1 + 2 \times (\frac{1}{10}) + 4 \times (\frac{1}{1,000})$
- B.  $9 \times 100 + 2 \times 1 + 2 \times (\frac{1}{100}) + 4 \times (\frac{1}{1000})$
- C.  $9 \times 100 + 2 \times 10 + 2 \times 1 + 4 \times (\frac{1}{100})$
- D.  $9 \times 100 + 2 \times (\frac{1}{1}) + 2 \times (\frac{1}{10}) + 4 \times (\frac{1}{100})$

44 The rules for two patterns are below.

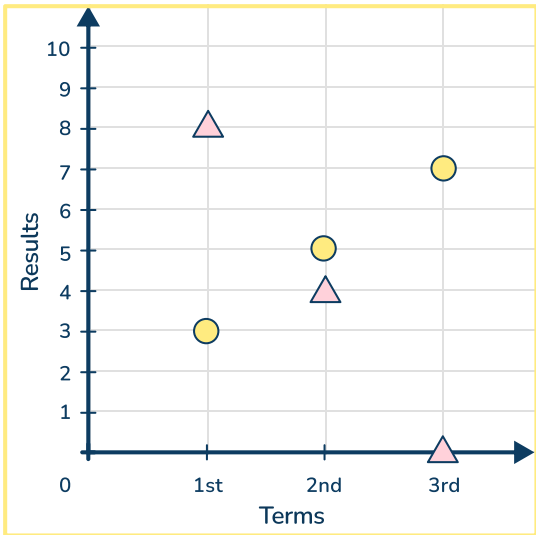
- Pattern J: Start at 2. Add 3.
- Pattern K: Start at 8. Multiply by  $\frac{1}{2}$ .

In the graphs, the circles represent Pattern J and the triangles represent Pattern K. Which graph is correct?

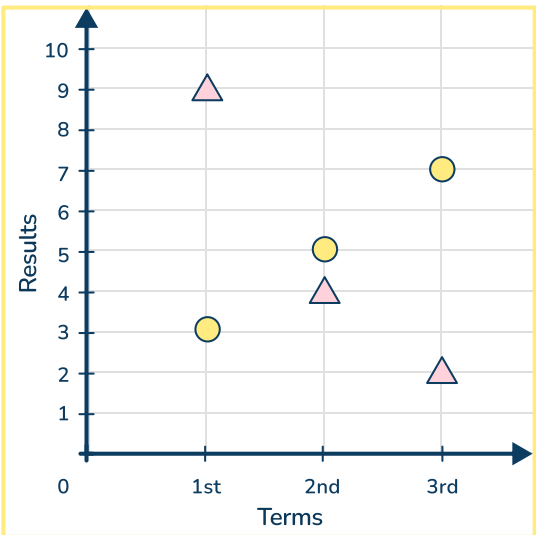
A.



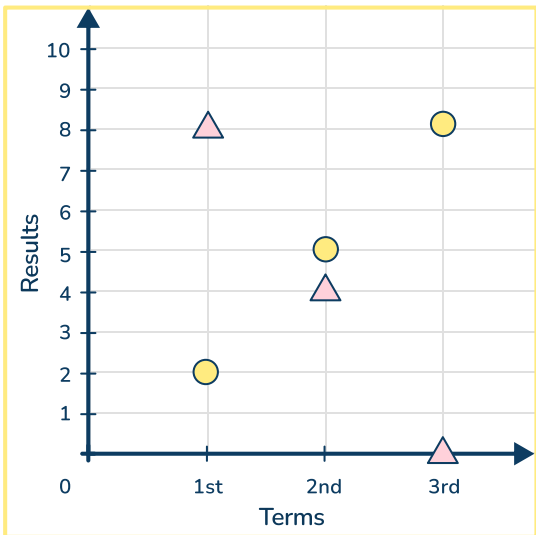
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C.

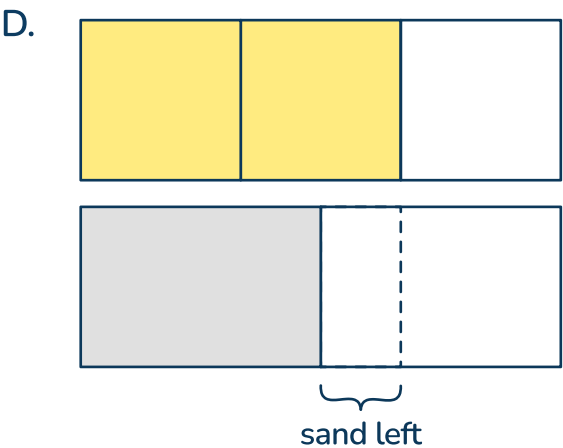
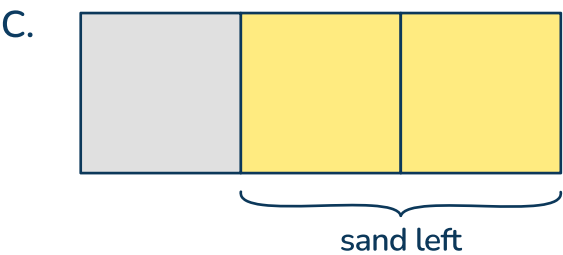
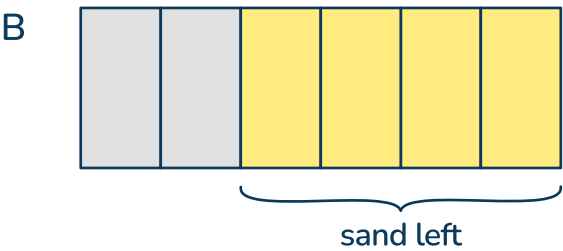
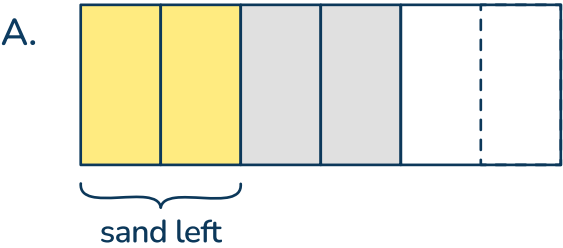


D.



- 45 Viraj was completing a history project. He had  $\frac{2}{3}$  of a pound of sand. He used  $\frac{1}{2}$  of the sand. To find how much of a pound of sand he has left, Viraj draws a model that represents 1 pound of sand.

Choose the model that shows the correct way Viraj should solve this problem.



## Answer Key - Multiple Choice

| Item number | Correct answer | Standard(s) | DOK   |
|-------------|----------------|-------------|-------|
| 1           | B              | NC.5.NBT.7  | DOK 2 |
| 2           | A              | NC.5.OA.2   | DOK 2 |
| 3           | D              | NC.5.NF.4   | DOK 3 |
| 4           | C              | NC.5.NBT.5  | DOK 2 |
| 5           | A              | NC.5.OA.2   | DOK 1 |
| 6           | D              | NC.5.NF.1   | DOK 2 |
| 7           | B              | NC.5.MD.5   | DOK 1 |
| 8           | D              | NC.5.NBT.1  | DOK 1 |
| 9           | A              | NC.5.NF.7   | DOK 2 |
| 10          | C              | NC.5.NBT.7  | DOK 2 |
| 11          | B              | NC.5.NBT.5  | DOK 2 |
| 12          | D              | NC.5.NBT.3  | DOK 2 |
| 13          | A              | NC.5.OA.3   | DOK 3 |
| 14          | B              | NC.5.NF.3   | DOK 2 |
| 15          | C              | NC.5.NBT.3  | DOK 1 |
| 16          | 798            | NC.5.MD.5   | DOK 1 |
| 17          | 3.25           | NC.5.MD.1   | DOK 1 |
| 18          | 34             | NC.5.NBT.6  | DOK 2 |
| 19          | $\frac{12}{7}$ | NC.5.NF.3   | DOK 2 |

# North Carolina State Practice Math Test | Grade 5 | Answers

| Item number | Correct answer  | Standard(s) | DOK   |
|-------------|-----------------|-------------|-------|
| 20          | 15606           | NC.5.NBT.5  | DOK 2 |
| 21          | 1.36            | NC.5.NBT.7  | DOK 2 |
| 22          | $\frac{1}{12}$  | NC.5.NF.7   | DOK 2 |
| 23          | $\frac{59}{30}$ | NC.5.NF.1   | DOK 2 |
| 24          | 2448            | NC.5.MD.5   | DOK 2 |
| 25          | 36              | NC.5.MD.5   | DOK 2 |
| 26          | 32              | NC.5.NBT.6  | DOK 2 |
| 27          | B               | NC5.NF.4    | DOK 3 |
| 28          | C               | NC.5.G.3    | DOK 1 |
| 29          | D               | NC.5.MD.1   | DOK 2 |
| 30          | A               | NC.5.MD.5   | DOK 2 |
| 31          | B               | NC.5.NF.4   | DOK 2 |
| 32          | D               | NC.5.G.1    | DOK 2 |
| 33          | D               | NC.5.NF.2   | DOK 2 |
| 34          | C               | NC.5.MD.2   | DOK 2 |
| 35          | A               | NC.5.NF.7   | DOK 2 |
| 36          | C               | NC.5.G.1    | DOK 1 |
| 37          | A               | NC.5.OA.3   | DOK 2 |
| 38          | B               | NC.5.NBT.7  | DOK 2 |
| 39          | C               | NC.5.NF.4   | DOK 2 |
| 40          | D               | NC.5.NF.4   | DOK 2 |

North Carolina State Practice Math Test | Grade 5 | Answers

| Item number | Correct answer | Standard(s) | DOK   |
|-------------|----------------|-------------|-------|
| 41          | A              | NC.5.OA.2   | DOK 1 |
| 42          | A              | NC.5.G.3    | DOK 2 |
| 43          | D              | NC.5.NBT.3  | DOK 1 |
| 44          | A              | NC.5.OA.3   | DOK 2 |
| 45          | A              | NC.5.NF.4   | DOK 2 |



ANSWERS SORTED BY STANDARD

| OA |   |           |       |
|----|---|-----------|-------|
| 2  | A | NC.5.OA.2 | DOK 2 |
| 5  | A | NC.5.OA.2 | DOK 1 |
| 13 | A | NC.5.OA.3 | DOK 3 |
| 37 | A | NC.5.OA.3 | DOK 2 |
| 41 | A | NC.5.OA.2 | DOK 1 |
| 44 | A | NC.5.OA.3 | DOK 2 |

| NBT |       |            |       |
|-----|-------|------------|-------|
| 1   | B     | NC.5.NBT.7 | DOK 2 |
| 4   | C     | NC.5.NBT.5 | DOK 2 |
| 8   | D     | NC.5.NBT.1 | DOK 1 |
| 10  | C     | NC.5.NBT.7 | DOK 2 |
| 11  | B     | NC.5.NBT.5 | DOK 2 |
| 12  | D     | NC.5.NBT.3 | DOK 2 |
| 15  | C     | NC.5.NBT.3 | DOK 1 |
| 18  | 34    | NC.5.NBT.6 | DOK 2 |
| 20  | 15606 | NC.5.NBT.5 | DOK 2 |
| 21  | 1.36  | NC.5.NBT.7 | DOK 2 |
| 26  | 32    | NC.5.NBT.6 | DOK 2 |
| 43  | D     | NC.5.NBT.3 | DOK 1 |

North Carolina State Practice Math Test | Grade 5 | Answers

| NF |                 |           |       |
|----|-----------------|-----------|-------|
| 3  | D               | NC.5.NF.4 | DOK 3 |
| 6  | D               | NC.5.NF.1 | DOK 2 |
| 9  | A               | NC.5.NF.7 | DOK 2 |
| 14 | B               | NC.5.NF.3 | DOK 2 |
| 19 | $\frac{12}{7}$  | NC.5.NF.3 | DOK 2 |
| 22 | $\frac{1}{12}$  | NC.5.NF.7 | DOK 2 |
| 23 | $\frac{59}{30}$ | NC.5.NF.1 | DOK 2 |
| 27 | B               | NC5.NF.4  | DOK 3 |
| 31 | B               | NC.5.NF.4 | DOK 2 |
| 33 | D               | NC.5.NF.2 | DOK 2 |
| 35 | A               | NC.5.NF.7 | DOK 2 |
| 39 | C               | NC.5.NF.4 | DOK 2 |
| 40 | D               | NC.5.NF.4 | DOK 2 |
| 45 | A               | NC.5.NF.4 | DOK 2 |

North Carolina State Practice Math Test | Grade 5 | Answers

| MD |      |           |       |
|----|------|-----------|-------|
| 7  | B    | NC.5.MD.5 | DOK 1 |
| 16 | 798  | NC.5.MD.5 | DOK 1 |
| 17 | 3.25 | NC.5.MD.1 | DOK 1 |
| 24 | 2448 | NC.5.MD.5 | DOK 2 |
| 25 | 36   | NC.5.MD.5 | DOK 2 |
| 29 | D    | NC.5.MD.1 | DOK 2 |
| 30 | A    | NC.5.MD.5 | DOK 2 |
| 34 | C    | NC.5.MD.2 | DOK 2 |




| G  |   |          |       |
|----|---|----------|-------|
| 28 | C | NC.5.G.3 | DOK 1 |
| 32 | D | NC.5.G.1 | DOK 2 |
| 36 | C | NC.5.G.1 | DOK 1 |
| 42 | A | NC.5.G.3 | DOK 2 |

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