



**THIRD SPACE  
LEARNING**

# 5th Grade NY State Practice Math Test

New York Practice Test Grade  
5

**Grade 5**

## Questions

Name: .....

Class: .....

Date: .....

Score: .....

### **SESSION 1:**

*30 Multiple Choice*

**Standard: 5.NF.B.6**

**DOK 1**

- 1 The fifth graders are having a candy sale as a fundraiser. Homeroom 1 sold  $9\frac{7}{8}$  cases of candy. Homeroom 2 sold  $\frac{4}{5}$  as many cases of candy as Homeroom 1. How many cases of candy did Homeroom 2 sell?

- A.  $7\frac{1}{10}$  cases
- B.  $7\frac{3}{10}$  cases
- C.  $7\frac{9}{10}$  cases
- D.  $7\frac{7}{10}$  cases

**Standard: 5.NBT.2**

**DOK 1**

**2** What number is equivalent to  $5.6 \times 10^6$ ?

- A. 5,600
- B. 5,600,000
- C. 560,000
- D. 56,000

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**Standard: 5.NBT.7**

**DOK 1**

**3** Jay runs at an average of 6.5 miles per hour. If he runs for 0.75 hour. How many miles did he run?

- A. 4.875 miles
- B. 48.75 miles
- C. 4 miles
- D. 8.7 miles

**Standard: 5.NF.5.a**

**DOK 2**

4 Which expression has a value greater than  $2\frac{1}{3}$ ?

A.  $1\frac{1}{2} \times \frac{1}{2}$

B.  $2 \times \frac{2}{3}$

C.  $1\frac{1}{4} \times \frac{1}{2}$

D.  $1\frac{1}{2} \times 1\frac{3}{4}$

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**Standard: 5.NBT.1**

**DOK 2**

5 What number will be in the tens place after 7,562 is divided by 100.

A. 6

B. 5

C. 7

D. 2



**Standard: 5.NBT.7**

**DOK 2**

- 6 Ms. Kinnaly buys 5.6 pounds of peanuts. She pays \$3.20 per pound. How much did Ms. Kinnaly pay for the peanuts?

- A. \$18.92
- B. \$17.92
- C. \$19.72
- D. \$17.82

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**Standard: 5.G.B.4**

**DOK 2**

- 7 Select the statement that is always true.

- A. A rhombus is always a square.
- B. A square is always a parallelogram.
- C. A parallelogram is always a square.
- D. A rectangle is always a rhombus.

**Standard: 5.OA.A.2**

**DOK 2**

- 8 Which expression represents, “the sum of 5 and 3 subtracted from 12.”

A.  $5 + 3 - 12$

B.  $12 - (5 + 3)$

C.  $12 - 5 + 3$

D.  $5 + 12 - 3$

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**Standard: 5.NF.B.5a**

**DOK 1**

- 9 Find the product.

$$\frac{9}{10} \times \frac{5}{8}$$

A.  $\frac{9}{16}$

B.  $\frac{14}{18}$

C.  $\frac{45}{70}$

D.  $\frac{9}{80}$

**Standard: 5.NF.B.4b**

**DOK 2**

- 10 Damian is constructing a rectangular wooden frame that is  $1\frac{1}{5}$  yard wide and  $2\frac{2}{3}$  yard long. What is the area of the rectangular frame in square yards?

A.  $3\frac{1}{5}$  yd<sup>2</sup>

B.  $3\frac{3}{8}$  yd<sup>2</sup>

C.  $3\frac{1}{3}$  yd<sup>2</sup>

D.  $3\frac{3}{5}$  yd<sup>2</sup>

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**Standard: 5.NBT.3a**

**DOK 2**

- 11 Which of the following is equal to 62.053

A.  $60 + 20 + \frac{5}{100} + \frac{3}{1000}$

B.  $60 + 2 + \frac{5}{10} + \frac{3}{100}$

C.  $60 + 2 + \frac{5}{100} + \frac{3}{1000}$

D.  $60 + 20 + \frac{5}{10} + \frac{3}{100}$

**Standard: 5.NBT.B7**

**DOK 1**

**12** Solve  $56.6 \div 0.1$

- A. 5.66
- B. 566
- C. 0.566
- D. 5660

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**Standard: 5.NBT.A.2**

**DOK 2**

**13** An operation and exponent are missing from the equation below. Which operation and exponent should go in the missing places?

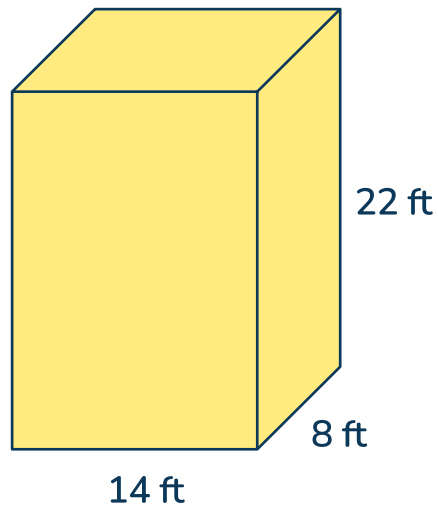
$$3,452 \triangle 10^{\triangle} = 0.003452$$

- A.  $\times$  and 6
- B.  $\times$  and 7
- C.  $\div$  and 6
- D.  $\div$  and 7

**Standard: 5.MD.C.5b**

**DOK 1**

- 14** A rectangular box has the given dimensions. What is the volume in cubic feet?



- A. 2,464 ft<sup>2</sup>
- B. 2,464 ft<sup>3</sup>
- C. 2,464 ft
- D. 2,460 ft<sup>2</sup>

**Standard: 5.NBT.B.6**

**DOK 2**

- 15 The Exclusive competitive cheerleading team is fundraising for their competition in Orlando, Florida. The team has raised \$2,258.74, which will reduce the airfare price for the twenty-two athletes on the team. If the money is evenly divided among each of the athletes, how much money will each person get towards their airfare?

A. \$102.67  
B. \$103.67  
C. \$112.94  
D. \$112.93

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**Standard: 5.NF.B.6**

**DOK 2**

- 16 Nikki lives  $\frac{2}{3}$  of a mile from school. Joy lives  $5\frac{3}{8}$  times as far as Nikki from school. How far does Joy live from school?

A.  $2\frac{7}{12}$  miles  
B.  $3\frac{1}{12}$  miles  
C.  $3\frac{7}{12}$  miles  
D.  $2\frac{9}{12}$  miles

**Standard: 5.NF.A.2**

**DOK 2**

- 17 Syria makes a 1 pound snack mix for her hike using dried bananas, M & M's and peanuts. The list below shows how many pounds of M & M's and peanuts she uses.

- $\frac{3}{7}$  pound of M & M's
- $\frac{1}{5}$  pound of peanuts

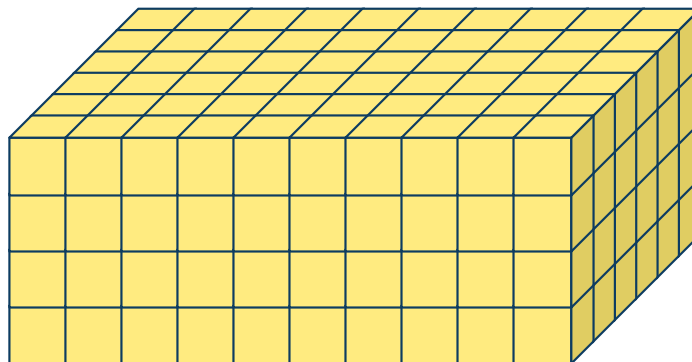
How much dried bananas, in pounds, does Syria use?

- A.  $\frac{22}{35}$
- B.  $\frac{28}{35}$
- C.  $\frac{15}{35}$
- D.  $\frac{13}{35}$
- 

**Standard: 5.MD.C.5a**

**DOK 2**

- 18 Which expression can be used to find the volume of the rectangular prism.



- A.  $10 \times 6 \times 3$
- B.  $11 \times 5 \times 4$
- C.  $10 \times 6 \times 4$
- D.  $9 \times 6 \times 4$

**Standard: 5.NBT.A.3b**

**DOK 1**

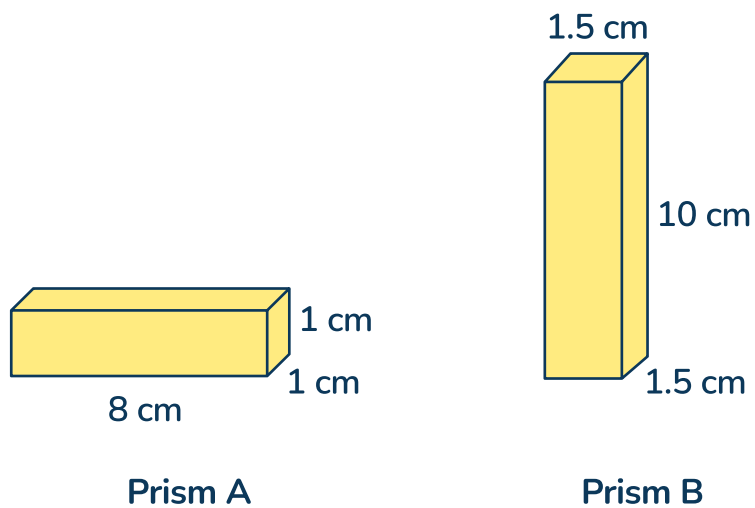
**19** Which comparison is NOT true?

- A.  $24.10 > 24.01$
  - B.  $2.08 < 2.80$
  - C.  $19.24 > 19.14$
  - D.  $41.09 > 41.90$
- 

**Standard: 5.MD.4**

**DOK 2**

**20** What is the total volume of prism A and prism B?



- A.  $30.5 \text{ cm}^3$
- B.  $30 \text{ cm}^3$
- C.  $30.5 \text{ cm}^2$
- D.  $22.5 \text{ cm}^3$



**Standard: 5.NBT.7**

**DOK 2**

- 21** A snowstorm brought snow over three days in Chicago, totaling 48.7 inches.
- Monday it snowed 14.2 inches
  - Tuesday it snowed 20.6 inches

How much snow fell on Wednesday?

- A. 34.8 inches
- B. 28.1 inches
- C. 13.9 inches
- D. 34.5 inches

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**Standard: 5.NBT.B.7**

**DOK 2**

- 22** Xavier's backyard is in the shape of a rectangle and has an area of 572.4 yd<sup>2</sup>. If the width of the backyard is 26.5 yards, what is the length of the backyard?

- A. 21 yards
- B. 21.6 yards
- C. 20.6 yards
- D. 20 yards

**Standard: 5.NBT.A.4**

**DOK 1**

**23** What is 27.09 rounded to the nearest whole number?

- A. 28
- B. 27
- C. 27.1
- D. 28.1

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**Standard: 5.OA.A.1**

**DOK 1**

**24** Find the value of:

$$[3(4 + 8) \div 9] + 5(10)$$

- A. 58
- B. 54
- C.  $\frac{65}{9}$
- D.  $\frac{30}{9}$

**Standard: 5.NF.B.7a**

**DOK 1**

**25** Find the value of  $7 \div \frac{1}{7}$

- A. 1
- B. 14
- C. 49
- D. 114

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**Standard: 5.NF.B.7c**

**DOK 2**

**26** Madden puts  $\frac{2}{3}$  pound of small rocks in her planter to fill it. How many times can she fill her planter with 5 pounds of small rocks?

- A.  $6\frac{1}{2}$  times
- B.  $7\frac{1}{2}$  times
- C.  $8\frac{1}{2}$  times
- D.  $5\frac{1}{2}$  times

**Standard: 5.NF.B.7b**

**DOK 2**

- 27 Teresa is throwing a party and buys 8 large sub sandwiches. She cuts the large sandwiches into eighths. How many pieces of sandwich does Teresa have for the party?

A. 72  
B. 64  
C. 16  
D. 36

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**Standard: 5.NBT.A.3a**

**DOK 1**

- 28 What is four hundred sixty and thirteen thousandths written in standard form?

A. 406.13  
B. 460.013  
C. 406.013  
D. 460.103

**Standard: 4.MD.A.2**

**DOK 2**

- 29 Adriana has 6 one-dollar bills, 2 quarters, 8 dimes, and 2 pennies. Caden has 4 one-dollar bills, 5 dimes, and 7 pennies. What is the difference between the amount of money Adriana has and the amount of money Caden has?

A. \$4.57  
B. \$7.32  
C. \$2.74  
D. \$2.75

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**Standard: 5.OA.A.2**

**DOK 2**

- 30 Noreen has 3 lop bunnies and 1 dwarf bunny. She feeds each of them 2 bowls of lettuce 3 times a day. Which expression can be used to show the amount of bowls of lettuce she gives her bunnies in a day?

A.  $2 + 3 (3 \times 1)$   
B.  $2 \times (3 + 1)$   
C.  $6 \times (3 + 1)$   
D.  $2 + 3 + 3 + 1$

**Session 2:**

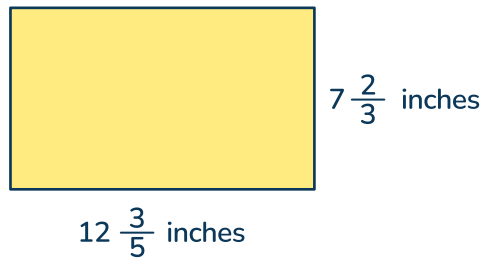
**5 Multiple Choice**

**8 Constructed Response**

**Standard: 5.NF.B.4b**

**DOK 1**

- 31** What is the area of the rectangle below?

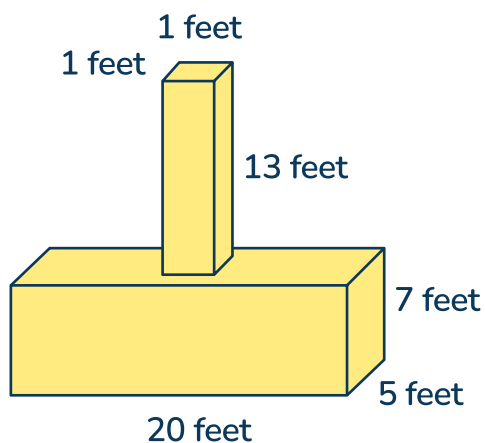


- A.  $84 \frac{3}{5}$  inches<sup>2</sup>
- B.  $96 \frac{2}{5}$  inches<sup>2</sup>
- C.  $95 \frac{2}{5}$  inches<sup>2</sup>
- D.  $96 \frac{3}{5}$  inches<sup>2</sup>

Standard: 5.MD.C.5c

DOK 2

- 32 Find the total volume of the 3-D figure below.



- A.  $713 \text{ ft}^3$
- B.  $713 \text{ ft}^2$
- C.  $9100 \text{ ft}^3$
- D.  $9100 \text{ ft}^2$

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Standard: 5.MD.A.1

DOK 2

- 33 Janice makes summer drink by mixing the ingredients below.

- 8 pints of lemon juice
- 3 cups of seltzer water
- 5 cups of raspberry juice

How many quarts of summer drink does she make?

- A. 8 quarts
- B. 12 quarts
- C. 6 quarts
- D. 24 quarts

**Standard: 5.NF.B.7b**

**DOK 2**

- 34 Dina is building a ramp. She cuts an 8 -foot-long piece of wood into sections that are each  $\frac{1}{4}$  foot long. How many sections of wood will Dina have when she is finished cutting?

A. 2  
B. 16  
C. 32  
D. 64

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**Standard: 5.NBT.B.7**

**DOK 2**

- 35 Which expression is equivalent to  $23 \times 0.24$

A.  $23 \times (0.2 + 0.04)$   
B.  $23 \times 0.2 + 0.04$   
C.  $2 + 3 (0.2 + 0.04)$   
D.  $20 + 3 + 0.2 + 0.04$



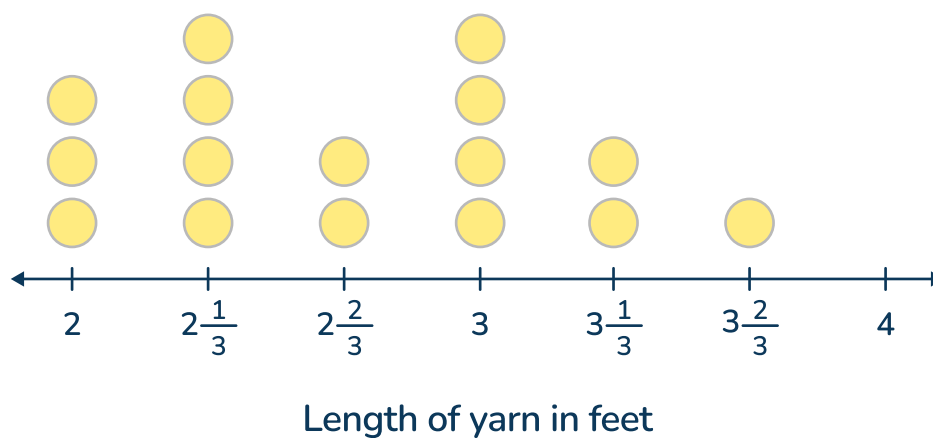
*Constructed response questions:*

**Standard: 5.MD.2**

**DOK 2**

**Constructed response - 1 point**

- 36** The line plot below shows the lengths of 16 pieces of yarn Joanna cut to use for an art project.



What is the total length of all the yarn she cut?\_\_\_\_\_

**Standard: 5.NF.7c**

**DOK 2**

**Constructed response - 1 point**

- 37** Royal's three friends want to borrow paint from him. Royal only has a  $\frac{1}{4}$  gallon can of paint to share. If he shares the paint evenly among his three friends. How much paint will each friend get?

**Standard: 5.OA.B.3**

**DOK 3**

**Constructed response - 2 points**

- 38** A student uses order of operations to solve the equation below. Identify the mistake the student made and correct it.

$$[3 \times (4 + 17) - 5] + [14 - (6 - 2)] = ?$$

$$[3 \times (21) - 5] + [14 - 4] =$$

$$[3 \times 16] + [10] =$$

$$48 + 10 = 58$$

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**Standard: 5.NF.5b**

**DOK 3**

**Constructed response - 2 points**

- 39** Josellen's math teacher gave the class the problem below.

$$27 \times \frac{7}{8}$$

Josellen says that the answer to this problem will be greater than 27. Brian says the answer to the problem will be less than 27. Who is correct? Show your work.

**Standard: 5.NBT.A.1**

**DOK 3**

**Constructed response - 2 point**

- 40 How does the digit 5 in the number 54,082 compare to the digit 5 in the number 60,532? Explain your answer.

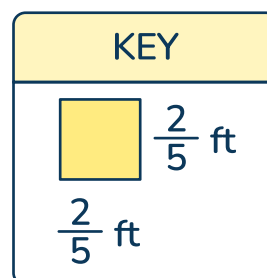
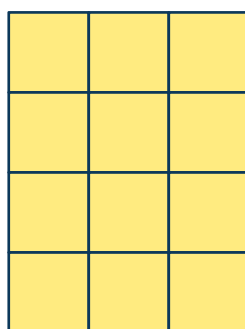
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**Standard: 5.NF.B.4b**

**DOK 3**

**Constructed Response - 2 points**

- 41 A small portion of London's table is covered with square tiles that are  $\frac{2}{5}$  foot by  $\frac{2}{5}$  foot. The diagram below shows the part of the table covered by these tiles. Find the area.



**Standard: 5.NBT.6**

**DOK 3**

**Constructed response - 2 points**

- 42 Millersville Elementary School has 624 students. Out of the 624 students 117 of them walk home and the rest take the bus. If a bus holds 48 students, how many buses does Millersville Elementary School need?

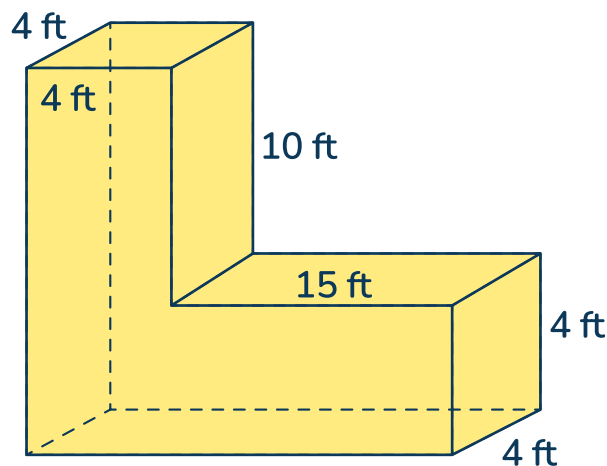
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**Standard: 5.MD.5c**

**DOK 2**

**Constructed response - 2 points**

- 43 Find the volume of the 3-D figure below.

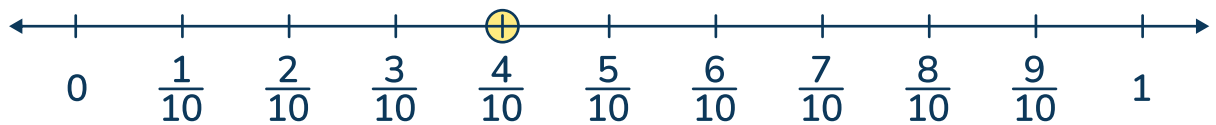


**Standard: 5.NF.A.2**

**DOK 4**

**Constructed Response - 3 points**

- 44 During vacation, Jan ran  $\frac{3}{8}$  of a mile on the beach on Thursday. On Friday, she ran another  $\frac{1}{2}$  mile on the beach. Jan added  $\frac{3}{8} + \frac{1}{2} = \frac{4}{10}$ . She then plotted the total miles she got on the number line below.



Part A: Explain why Jan's answer is not reasonable.

Part B: Find Jan's total distance.

Part C: Explain how you would plot the distance on the number line.

## Answer Key - Multiple Choice

Item number	Correct answer	Standard(s)	DOK
1	C	5.NF.B.6	1
2	B	5.NBT.2	1
3	A	5.NBT.7	1
4	D	5.NF.5a	2
5	B	5.NBT.1	2
6	B	5.NBT.7	2
7	B	5.G.B.4	2
8	B	5.OA.A2	2
9	A	5.NF.B.5a	1
10	A	5.NF.B.4b	2
11	C	5.NBT.3a	2
12	B	5.NBT.B7	1
13	C	5.NBT.A.2	2
14	B	5.MD.C.5b	1
15	A	5.NBT.B.6	2
16	C	5.NF.B.6	2
17	D	5.NF.A.2	2
18	C	5.MD.C.5a	2
19	D	5.NBT.A.3b	1
20	A	5.MD.4	2

## New York Practice Test | Grade 5 | Answers

Item number	Correct answer	Standard(s)	DOK
21	C	5.NBT.7	2
22	B	5.NBT.B.7	2
23	B	5.NBT.A.4	1
24	B	5.OA.A.1	1
25	C	5.NF.B.7a	1
26	B	5.NF.B.7c	2
27	B	5.NF.B.7b	2
28	B	5.NBT.A.3a	1
29	D	4.MD.A.2	2
30	C	5.OA.A.2	2
31	D	5.NF.B.4b	1
32	A	5.MD.C.5c	2
33	C	5.MD.A.1	2
34	C	5.NF.B.7b	2
35	A	5.NBT.B.7	2
36	Answer on rubric	5.MD.2	2
37	Answer on rubric	5.NF.7c	2
38	Answer on rubric	5.OA.B.3	3
39	Answer on rubric	5.NF.5b	3
40	Answer on rubric	5.NBT.A.1	3

## New York Practice Test | Grade 5 | Answers

Item number	Correct answer	Standard(s)	DOK
41	Answer on rubric	<b>5.NF.B.4b</b>	3
42	Answer on rubric	<b>5.NBT.6</b>	3
43	Answer on rubric	<b>5.MD.5c</b>	2
44	Answer on rubric	<b>5.NF.A.2</b>	4

Breakdown of Assessment				
Operations and Algebraic thinking (OA)	Number and Operations in Base Ten (NBT)	Number and Operations - Fractions (NF)	Measurement and Data (MD)	Geometry (G)
11%	35%	33%	18%	2%



## Rationales

Item	KEY	Rationale
1	A is incorrect	A student may have chosen this answer if they do not have a strong understanding of multiplying fractions and mixed numbers.
	B is incorrect	A student may have chosen this answer if they do not have a strong understanding of multiplying fractions and mixed numbers.
	C is correct	This is the correct answer. $9\frac{7}{8} \times \frac{4}{5} =$ $\frac{79}{8} \times \frac{4}{5} = \frac{316}{40} = 7\frac{9}{10}$
	D is incorrect	A student may have chosen this answer if they do not have a strong understanding of multiplying fractions and mixed numbers.

Item	KEY	Rationale
2	A is incorrect	A student may choose this answer if they cannot recognize $10^6 = 1,000,000$
	B is correct	This is the correct answer. $5.6 \times 10^6 =$ $5.6 \times 1,000,000 = 5,600,000$
	C is incorrect	A student may choose this answer if they cannot recognize $10^6 = 1,000,000$
	D is incorrect	A student may choose this answer if they cannot recognize $10^6 = 1,000,000$

Item	KEY	Rationale
3	A is correct	This is the correct answer. $6.5 \times 0.75 = 4.875$
	B is incorrect	A student may choose this answer if they struggle with decimal multiplication and knowing where to place the decimal point.
	C is incorrect	A student may choose this answer if they do not have a strong understanding of decimal multiplication.
	D is incorrect	A student may choose this answer if they divide instead of multiply.

Item	KEY	Rationale
4	A is incorrect	A student may choose this answer if they do not have a strong understanding of fraction multiplication and/or misread to select the lesser value.
	B is incorrect	A student may choose this answer if they do not have a strong understanding of fraction multiplication and/or misread to select the lesser value.
	C is incorrect	A student may choose this answer if they do not have a strong understanding of fraction multiplication and/or misread to select the lesser value.
	D is correct	This is the correct answer. $1\frac{1}{2} \times 1\frac{3}{4} =$ $\frac{3}{2} \times \frac{7}{4} = \frac{21}{8} = 2\frac{5}{8}$ $2\frac{5}{8} > 2\frac{1}{3}$

## New York Practice Test | Grade 5 | Rationales

Item	KEY	Rationale
5	A is incorrect	A student may choose this answer if they do not divide and use the number 7,562.
	B is correct	This is the correct answer because $7562 \div 100 = 75.62$ 5 is the number in the tens digit
	C is incorrect	A student may choose this answer if they divide incorrectly.
	D is incorrect	A student may choose this answer if they divide incorrectly.

Item	KEY	Rationale
6	A is incorrect	A student may choose this answer if they multiply incorrectly or confuse the digits.
	B is correct	This is the correct answer. $3.20 \times 5.6 = \$17.92$
	C is incorrect	A student may choose this answer if they multiply incorrectly or confuse the digits.
	D is incorrect	A student may choose this answer if they multiply incorrectly or confuse the digits.

Item	KEY	Rationale
7	A is incorrect	A student may choose this answer if they do not have a strong understanding of the hierarchy of quadrilaterals.
	B is correct	This is the correct answer because a square is a special type of parallelogram meaning that it is also classified as a parallelogram.
	C is incorrect	A student may choose this answer if they do not have a strong understanding of the hierarchy of quadrilaterals.
	D is incorrect	A student may choose this answer if they do not have a strong understanding of the hierarchy of quadrilaterals.

Item	KEY	Rationale
8	A is incorrect	A student may choose this answer if they do not have a strong understanding of translating words into expressions.
	B is correct	This is the correct answer because “the sum of 5 and 3 subtracted from 12” is the quantity of 5 and 3 subtracted from 12 requiring parenthesis around $5 + 3$ .
	C is incorrect	A student may choose this answer if they do not have a strong understanding of translating words into expressions.
	D is incorrect	A student may choose this answer if they do not have a strong understanding of translating words into expressions.

Item	KEY	Rationale
9	A is correct	This is the correct answer. $\frac{9}{10} \times \frac{5}{8} = \frac{45}{80} = \frac{9}{16}$
	B is incorrect	A student may choose this answer if they add the numerators and denominators.
	C is incorrect	A student may choose this answer if they multiply incorrectly.
	D is incorrect	A student may choose this answer if they correctly simplify before multiplying, but then multiply incorrectly.

Item	KEY	Rationale
10	A is correct	This is the correct answer. $1\frac{1}{5} \times 2\frac{2}{3} =$ $\frac{6}{5} \times \frac{8}{3} = \frac{48}{15} = 3\frac{1}{5}$ $3\frac{1}{5} \text{ yd}^2$
	B is incorrect	A student may choose this answer if they do not recognize that area is squared units.
	C is incorrect	A student may choose this answer if they multiply incorrectly.
	D is incorrect	A student may choose this answer if they multiply incorrectly and also do not recognize area to be a square unit.

Item	KEY	Rationale
11	A is incorrect	A student may choose this answer if they do not recognize 2 being in the ones digit.
	B is incorrect	A student may choose this answer if they do not recognize that 5 is in the hundredths digit.
	C is correct	This is the correct answer. $62.053 = 60 + 2 + \frac{5}{100} + \frac{3}{1000}$
	D is incorrect	A student may choose this answer if they do not recognize that 2 is in the ones digit and 5 is in the hundredths digit.

Item	KEY	Rationale
12	A is incorrect	A student may choose this answer if they do not have a strong understanding of decimal division.
	B is correct	This is the correct answer. $56.6 \div 0.1 = 566$
	C is incorrect	A student may choose this answer if they do not have a strong understanding of decimal division.
	D is incorrect	A student may choose this answer if they do not have a strong understanding of decimal division.

Item	KEY	Rationale
13	A is incorrect	A student might choose this answer if they recognize that the exponent is 6 but think the equation should be a multiplication equation instead of a division equation.
	B is incorrect	A student might choose this answer if they do not have a strong understanding of powers of 10.
	C is correct	This is the correct answer because $3,452 \div 10^6 = 0.003452$
	D is incorrect	A student may choose this answer if they recognize the equation to be a division equation but miscount the exponent.

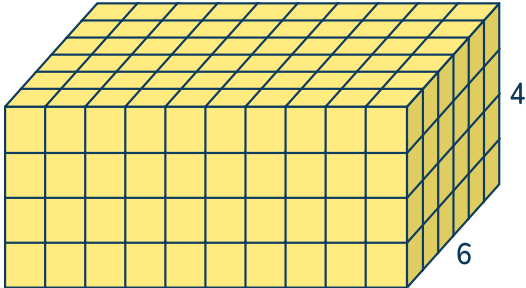
Item	KEY	Rationale
14	A is incorrect	A student may choose this answer if they think volume is square feet.
	B is correct	This is the correct answer. $V = l \times w \times h$ $14 \times 8 \times 22 = 2,464$ $2,464 \text{ ft}^3$
	C is incorrect	A student may choose this answer if they think volume is a one dimension unit, in feet.
	D is incorrect	A student may choose this answer if they do not have a strong understanding of finding volume.

Item	KEY	Rationale
15	A is correct	This is the correct answer. $2,258.74 \div 22 = 102.67$ <i>\$102.67 for each athlete</i>
	B is incorrect	Students may choose this answer if they divide incorrectly.
	C is incorrect	Students may choose this answer if they divide by 20 instead of 22.
	D is incorrect	Students may choose this answer if they divide by 20 instead of 22.

Item	KEY	Rationale
16	A is incorrect	A student may choose this answer if they make a mistake in multiplying the fractions.
	B is incorrect	A student may choose this answer if they make a mistake in multiplying the fractions.
	C is correct	This is the correct answer. $\frac{2}{3} \times 5\frac{3}{8} =$ $\frac{2}{3} \times \frac{43}{8} = \frac{86}{24} = 3\frac{7}{12}$ miles
	D is incorrect	A student may choose this answer if they make a mistake in multiplying the fractions.



Item	KEY	Rationale
17	A is incorrect	Students may choose this answer if they do not subtract from 1 whole pound.
	B is incorrect	Students may choose this answer if they do not have a strong understanding of problem solving with fractions.
	C is incorrect	Students may choose this answer if they do not have a strong understanding of problem solving with fractions.
	D is correct	<p>This is the correct answer.</p> $\frac{3}{7} + \frac{1}{5} =$ $\frac{15}{35} + \frac{7}{35} = \frac{22}{35}$ $1 - \frac{22}{35} = \frac{13}{35}$ <p><math>\frac{13}{35}</math> pound of dried bananas</p>

Item	KEY	Rationale
18	A is incorrect	Students may choose this answer if they miscount the cubes.
	B is incorrect	Students may choose this answer if they miscount the cubes.
	C is correct	<p>This is the correct answer.  Volume = length × width × height</p>  <p style="text-align: center;">10</p>
	D is incorrect	Students may choose this answer if they miscount the cubes.

Item	KEY	Rationale
19	A is incorrect	Students may choose this answer if they do not have a strong understanding of decimal place value.
	B is incorrect	Students may choose this answer if they do not have a strong understanding of decimal place value.
	C is incorrect	Students may choose this answer if they do not have a strong understanding of decimal place value.
	D is correct	<p>This is the correct answer.  <math>41.09 &lt; 41.90</math>  <math>41.09</math> is not <math>&gt; 41.90</math>.</p>

Item	KEY	Rationale
20	A is correct	This is the correct answer. Volume of Prism A: $8 \times 1 \times 1 = 8 \text{ cm}^3$ Volume of Prism B: $10 \times 1.5 \times 1.5 = 22.5 \text{ cm}^3$ $8 + 22.5 = 30.5 \text{ cm}^3$
	B is incorrect	Students may choose this answer if they do not include the 0.5 or multiply wrong.
	C is incorrect	Students may choose this answer if they think volume is a square unit.
	D is incorrect	Students may choose this answer because it is the volume of Prism B.

Item	KEY	Rationale
21	A is incorrect	Students may choose this answer if they only add Monday and Tuesday's snowfall.
	B is incorrect	Students may choose this answer if they only subtract Tuesday's snowfall from the total.
	C is correct	This is the correct answer. $14.2 + 20.6 = 34.8$ $48.7 - 34.8 = 13.9$ 13.9 inches fell on Wednesday.
	D is incorrect	Students may choose this answer if they only subtract Monday snowfall from total.

Item	KEY	Rationale
22	A is incorrect	Students may choose this answer if they multiply or divide incorrectly.
	B is correct	This is the correct answer. Area = length $\times$ width $572.4 = 26.5 \times \text{width}$ $26.5 \times 21.6 = 572.4$
	C is incorrect	Students may choose this answer if they multiply or divide incorrectly.
	D is incorrect	Students may choose this answer if they multiply or divide incorrectly.

Item	KEY	Rationale
23	A is incorrect	Students may choose this answer if they round up instead of down.
	B is correct	This is the correct answer. 27.09 rounded to the nearest whole number is 27.
	C is incorrect	Students may choose this answer if they round to the nearest tenth.
	D is incorrect	Students may choose this answer if they round incorrectly to the nearest tenth.

Item	KEY	Rationale
24	A is incorrect	Students may choose this answer if they perform order of operations incorrectly.
	B is correct	This is the correct answer. $[3 (4 + 8) \div 9] + 5(10)$ $(36 \div 9) + 50$ $54$
	C is incorrect	Students may choose this answer if they perform order of operations incorrectly and/or do incorrect operations.
	D is incorrect	Students may choose this answer if they perform order of operations incorrectly and/or do incorrect operations.

Item	KEY	Rationale
25	A is incorrect	Students may choose this answer if they multiply instead of divide.
	B is incorrect	Students may choose this answer if they do not know how to divide fractions.
	C is correct	This is the correct answer. $7 \div \frac{1}{7} =$ $77 \times \frac{7}{1} = 49$
	D is incorrect	Students may choose this answer if they do not know how to divide fractions.

Item	KEY	Rationale
26	A is incorrect	Students may choose this answer if they divide incorrectly.
	B is correct	<p>This is the correct answer.</p> $5 \div \frac{2}{3} =$ $\frac{5}{1} \times \frac{3}{2} = \frac{15}{2} = 7 \frac{1}{2}$
	C is incorrect	Students may choose this answer if they divide incorrectly.
	D is incorrect	Students may choose this answer if they divide incorrectly.

Item	KEY	Rationale
27	A is incorrect	Students may choose this answer if they do not have strong math facts.
	B is correct	<p>This is the correct answer.</p> $8 \times 8 = 64$
	C is incorrect	Students may choose this answer because they might think to add instead of multiply.
	D is incorrect	Students may choose this answer if they do not have strong math facts.

Item	KEY	Rationale
28	A is incorrect	Students may choose this answer if they misread “sixty” and think 406.13 the numbers to the right of the decimal represent 13 thousandths when in fact it represents 13 hundredths.
	B is correct	This is the correct answer, four hundred sixty and thirteen thousandths in standard form is 460.013
	C is incorrect	Students may choose this answer because the numbers to the right of the decimal point represent 13 thousandths.
	D is incorrect	Students may choose this answer because they notice the 460.

Item	KEY	Rationale
29	A is incorrect	Students may choose this answer if they do not have a strong understanding of what the question is asking. \$4.57 is the amount of money Caden has.
	B is incorrect	Students may choose this answer if they do not have a strong understanding of what the question is asking. \$7.32 is the amount of money Adriana has.
	C is incorrect	Students may choose this answer if they make a mistake in subtraction.
	D is correct	<p>This is the correct answer.</p> <p>Adriana has \$7.32</p> <p>Caden has \$4.57</p> <p><math>7.32 - 4.57 = 2.75</math></p> <p>\$2.75</p>

Item	KEY	Rationale
30	A is incorrect	Students may choose this answer because it is close to the actual expression. Two should be multiplied to 3 not added.
	B is incorrect	Students may choose this answer if they struggle with creating numerical expressions from real world situations.
	C is correct	This is the correct answer. There are 4 bunnies (3 + 1) each of them get 2 bowls of lettuce 3 times a day (2 x 3) $6 \times (3 + 1)$ is the correct expression.
	D is incorrect	Students may choose this answer if they struggle with creating numerical expressions from real world situations.

Item	KEY	Rationale
31	A is incorrect	Students may choose this answer if they struggle with fraction multiplication.
	B is incorrect	Students may choose this answer because it is close to the actual answer and they do not have a strong command of the fraction multiplication.
	C is incorrect	Students may choose this answer because it is close to the actual answer and they do not have a strong command of fraction multiplication.
	D is correct	This is the correct answer. $12\frac{3}{5} \times 7\frac{2}{3} =$ $\frac{63}{5} \times \frac{23}{3} = \frac{1449}{15} = 96\frac{3}{5}$



Item	KEY	Rationale
32	A is correct	<p>This is the correct answer. Find the volume of the top prism and the bottom prism and add them together.</p> $13 \times 1 \times 1 = 13$ $20 \times 5 \times 7 = 700$ $700 + 13 = 713$ $713 \text{ ft}^3$
	B is incorrect	Students may choose this answer if they are not mindful of the units.
	C is incorrect	Students may choose this answer if they multiply the two volumes together instead of adding them.
	D is incorrect	Students may choose this answer if they multiply the two volumes together and are not mindful of the units.

Item	KEY	Rationale
33	A is incorrect	Students may choose this answer if they do not have a strong command of measurement conversions.
	B is incorrect	Students may choose this answer if they do not convert pints into quarts
	C is correct	<p>This is the correct answer.</p> <p>8 pints of lemon juice = 16 cups</p> <p>Add all the cups together: <math>16 + 3 + 5 = 24</math> cups</p> <p><math>24 \text{ cups} = 12 \text{ pints} = 6 \text{ quarts}</math></p>
	D is incorrect	Students may choose this answer if they do not convert cups to quarts.

Item	KEY	Rationale
34	A is incorrect	Students may choose this answer if they divide 8 by 4.
	B is incorrect	Students may choose this answer if they double 8.
	C is correct	This is the correct answer. $8 \div \frac{1}{4} = 32$
	D is incorrect	Students may choose this answer if they multiply $8 \times 8$

Item	KEY	Rationale
35	A is correct	This is the correct answer. $23 \times 0.24 = 23 \times (0.2 + 0.04)$
	B is incorrect	Students may choose this answer if they are not mindful of the parentheses.
	C is incorrect	Students may choose this answer if they are not mindful of the place value of the digits of 23.
	D is incorrect	Students may choose this answer if they do not have a strong command of place value.

Item	KEY	Rationale
36	1 point	The student correctly finds the total length to be 43 feet.
	0 points	The student does not show an understanding of how to find the total length.

Item	KEY	Rationale
37	1 point	<p>The student correctly divides.</p> $\frac{1}{4} \div 3 =$ $\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$ <p>Each friend will get <math>\frac{1}{12}</math> gallon</p>
	0 points	The student does not know to divide or show an understanding of division of fractions.

Item	KEY	Rationale
38	2 points	<p>To receive 2 points the student has to correctly identify and correct the mistake.</p> $[3 \times (4 + 17) - 5] + [14 - (6 - 2)] = ?$ $[3 \times (21) - 5] + [14 - 4] =$ <p>(after this step the student made the error of subtracting 5 from 21 when the student should have multiplied 21 by 3 first)</p> $[63 - 5] + [10] =$ $[63 - 5] + [10] =$ $58 + 10 = 68$
	1 point	To receive 1 point, the student identifies the mistake but makes a minor error in correcting it.
	0 points	The student does not demonstrate understanding.

Item	KEY	Rationale
39	2 points	To receive 2 points, students need to identify that Brian is correct and show the solution. $27 \times \frac{7}{8} = \frac{189}{8} = 23\frac{5}{8}$
	1 point	Students will receive 1 point if they identify Brian as being correct but make minor calculation errors or identify Brian as being correct without any calculation.
	0 points	Students will receive 0 points if they leave the response blank, or if they do not write a correct expression or solve correctly.

Item	KEY	Rationale
40	2 points	To receive 2 points the student needs to state that the digit 5 in 54,082 represents 50,000 and the digit 5 in the number 60,532 represents 500. 50,000 is 100 times the value of 500. So, the digit 5 in 54,082 is 100 times the digit 5 in 60,532.
	1 point	A student gets 1 point if they can identify the place value 5 in either number or gives a partial explanation.
	0 points	The student does not demonstrate understanding.

Item	KEY	Rationale
41	2 points	<p>To receive 2 points.</p> <p>Student has to correctly calculate the area with correct units.</p> $12 \times \left( \frac{2}{5} \times \frac{2}{5} \right) =$ $12 \times \frac{4}{25}$ $\frac{48}{25} = 1 \frac{23}{25} \text{ feet}^2$
	1 point	To receive 1 point. The student makes a minor calculation error or forgets to include the units.
	0 points	Students will receive 0 points if they leave the response blank, or if they do not write a correct expression or solve correctly.




Item	KEY	Rationale
42	2 points	<p>To receive 2 points, students need to correctly calculate that the school needs 11 buses.</p> $624 - 117 = 507$ <p>507 students take the bus.</p> $507 \div 48 = 10 \frac{27}{48}$ <p>This needs to be rounded up to 11 buses.</p>
	1 point	Students will receive 1 point if they make a minor mistake in the calculation or state 10 buses are needed with correct calculations.
	0 points	Students will receive 0 points if they leave the response blank, or if they do not write a correct expression or solve correctly.

Item	KEY	Rationale
43	2 points	<p>To receive 2 points the student needs to find the correct volume with units. There are various ways to divide up the irregular prism.</p> $4 \times 4 \times 14 \text{ and } 15 \times 4 \times 4$ $224 + 240 =$ $464 \text{ ft}^3$
	1 point	<p>Students will receive 1 point if they make a minor mistake in the calculation or leave off the units.</p>
	0 points	<p>Students will receive 0 points if they leave the response blank, or if they do not write a correct expression or solve correctly.</p>

Item	KEY	Rationale
44	3 points	<p>o get 3 points, a student needs to answer all three parts correctly.</p> <p>Part A: Jan's answer is not reasonable because in order to add fractions, she would need to get a common denominator. Jan added the numerators and the denominators to get her total which is incorrect. Also, the sum she got was less than <math>\frac{1}{2}</math> and on Friday she ran a <math>\frac{1}{2}</math> of a mile which means the total has to be greater than that.</p> <p>Part B:</p> $\frac{3}{8} + \frac{1}{2} =$ $\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$ <p>She ran a total of <math>\frac{7}{8}</math> of a mile</p> <p>Part C: To plot <math>\frac{7}{8}</math> on a number line, divide the number line up into 8 equal parts from 0 to 1 and then plot <math>\frac{7}{8}</math>.</p>
	2 points	For students to get 2 points, they need to answer two of the three parts correctly.
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	1 point	For students to get 1 point, they need to answer one of the three parts correctly.
	0 points	Students will receive 0 points if they leave the response blank, or if they do not write a correct expression or solve correctly.

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