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Question 21 is an open-response question.

- BE SURE TO ANSWER AND LABEL ALL PARTS OF THE QUESTION.
- Show all your work (diagrams, tables, or computations) in your Student Answer Booklet.
- · If you do the work in your head, explain in writing how you did the work.

Write your answer to question 21 in the space provided in your Student Answer Booklet.



Abe stacked boxes onto a truck. Each box he stacked had the same weight. The table below shows the total weight for different numbers of boxes.

Total Weight of Boxes

Number of Boxes	Total Weight (in pounds)
2	50
4	100
6	150

- a. What is the total weight, in pounds, of 8 boxes? Show or explain how you got your answer.
- b. Based on the table, write or describe a rule that can be used to find the weight of n boxes, where n is any number of boxes.
- c. Is it possible for the total weight of the boxes Abe stacked onto the truck to be exactly 520 pounds? Show or explain how you got your answer.

MCAS Open Response Question Answer Space

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PRACTICE TEST

Read each problem. Circle the letter of the best answer.

- 1 Find 1,062 ÷ 59.
 - **A** 17
- **C** 19.7
- **B** 18
- **D** 62,658
- **2** Travis is making 5 lasagnas using 12 cups of cheese. Which number represents the amount of cheese he will use per lasagna?
 - $A = \frac{5}{12} \text{ cup}$
- **C** 7 cups
- **B** $2\frac{2}{5}$ cups
- **D** 60 cups
- **3** What is the product of 0.022×10^3 ?
 - **A** 0.22
- **C** 22
- **B** 2.2
- **D** 66
- **4** Which of the following is the most appropriate unit for measuring the length of a sailboat?
 - **A** mile
- **C** foot
- **B** yard
- **D** inch
- **5** Which point is located on the *y*-axis of a coordinate plane?
 - **A** (6, 0)
- **C** (3, 2)
- **B** (6, 6)
- **D** (0, 6)

- **6** What is the maximum number of 1-cm³ cubes that can fit into a box with a volume of 1,200 cm³?
 - **A** 1

- **C** 1,020
- **B** 600
- **D** 1,200
- 7 At a zoo, $\frac{1}{3}$ of the animals are birds, $\frac{4}{9}$ are mammals, and the rest are reptiles and amphibians. What fraction of animals at the zoo are reptiles and amphibians?
 - **A** $\frac{21}{27}$
- $c^{\frac{2}{9}}$
- **B** $\frac{5}{12}$
- **D** $\frac{2}{3}$
- **8** Which is the expanded form of 4,005,006 using exponents?

A
$$(4 \times 10^6) + (5 \times 10^4) + (6 \times 10^1)$$

B
$$(4 \times 10^6) + (5 \times 10^3) + (6 \times 10^0)$$

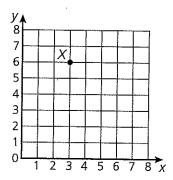
C
$$(4 \times 10^6) + (5 \times 10^4) + (6 \times 10^1)$$

D
$$(4 \times 10^9) + (5 \times 10^5) + (6 \times 10^0)$$

Read each problem. Circle the letter of the best answer.

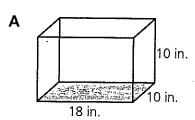
- **9** Mr. Rainer is adding a room to his house. The new room is 25 ft long, 20 ft wide, and 12 ft tall. What is the volume of the room?

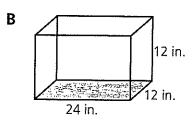
 - **A** 6,012 ft³ **C** 3,000 ft³
 - **B** 6,000 ft³ **D** . 2,512 ft³
- **10** Solve 9.8×20.7 .
 - **A** 35.19
- 351.90
- В 202.86
- **D** 2,028.6
- 11 What is the standard form of the number $(2 \times 1) + (4 \times \frac{1}{10}) + (9 \times \frac{1}{1.000})$?
 - **A** 2.049
- **C** 2.49
- **B** 2.409
- **D** 249
- **12** Point Y is 1 unit down from and 2 units to the left of point X.

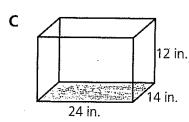


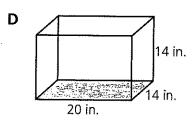
- What are the coordinates of point Y?
- **A** (6, 3)
- **C** (5, 1)
- **B** (3, 6)
- **D** (1, 5)

13 Jade's pet snake needs at least 4,000 in.3 of space in its tank. Which tank should Jade buy?







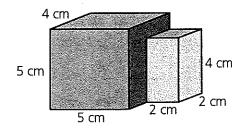


- 14 Nobu needs 54 inches of wood to build a picture frame. If the wood costs \$2.50 a foot, how much will he pay?
 - **A** \$11.25
- **C** \$100.00
- **B** \$0.93
- **D**_\$11.50

Read each problem. Circle the letter of the best answer.

- 15 There were 29 tables at a wedding reception. Each table had 12 seats, and every seat was full. How many people were at the wedding reception?
 - **A** 77
- **C** 338
- **B** 238
- **D** 348
- **16** Which shows the decimals in order from least to greatest?
 - **A** 6.5, 6.13, 8.905, 8.9
 - **B** 22.95, 22.059, 21.90, 21.09
 - **C** 54.07, 54.7, 54.707, 54.77
 - **D** 63.595, 63.06, 63.8, 63.402
- 17 How many tenths are there in 32?
 - **A** $3\frac{1}{5}$
- **C** 225
- **B** $32\frac{1}{10}$
- **D** 320
- **18** A triangle has two sides of equal length. Which of the following could the triangle **not** be classified as?
 - A scalene
 - **B** right
 - **C** isosceles
 - **D** equilateral

- 19 Mila plants a bush at the beginning of the summer that is 12 inches tall. At the end of the summer its height has tripled, so she cuts it down 8 inches. Which expression shows the height of the bush then?
 - **A** (3 + 12) 8
 - **B** $3 \times (12 8)$
 - **C** $(3 \times 12) 8$
 - **D** $3 \times (12) + 8$
- **20** Which number shows 25.254 rounded to the tenths place?
 - **A** 30
- **C** 25.25
- **B** 25
- **D** 25.3
- **21** What is the quotient of $\frac{3}{4}$ divided by 3?
 - **A** $\frac{1}{4}$
- **c** $2\frac{1}{4}$
- **B** $\frac{4}{3}$
- **D** 4
- **22** What is the volume of the irregular figure shown below?



- **A** 140 cm³
- **C** 108 cm³
- **B** 116 cm³
- **D** 216 cm³

Read each problem. Circle the letter of the best answer.

23 How many times must Henry fill a 350-mL cup to empty a 10.5-L sink that is filled with water?

Α

30

В 300 **D** 3,000

24 Kamala drew a figure that has a pair of congruent parallel sides that measure 3 inches and a pair of congruent parallel sides that measure 1 inch. The figure has four right angles. Which choice best describes Kamala's figure?

quadrilateral

C rectangle

В parallelogram

D rhombus

25 There are 360 people at a museum opening. Half of the people are museum supporters, $\frac{3}{8}$ are artists, and the rest are museum employees. How many people are artists?

Α 36 135

45

180

26 Yesterday's low temperature was 65.9°F. The high temperature was 83°F. What was the change in temperature during the day?

5.76°F

18.1°F

17.1°F

27.1°F

27 Jenny made this input-output table.

IN	OUT
3	10
5	12
7	14
12	19

What is the output value for an input value of 2?

D 14

28 What is $\frac{7}{12}$ of 120?

70

60

206

29 Simply the expression below.

$$17 - (4 \times 3)$$

C 29

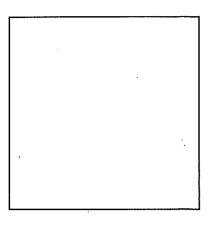
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39

30 What is $15\frac{3}{4} - 6\frac{9}{20}$ in lowest terms?

A $10\frac{1}{3}$ **C** $9\frac{3}{10}$ **B** $9\frac{6}{16}$ **D** $9\frac{7}{10}$

31 What is $\frac{4}{5}$ of $\frac{2}{3}$? Show how to find the answer on the model below.



Answer _____

32 A business office spent \$4,628 on postage last year. On average, how much did the office spend on postage per week? Show your work.

Answer _____

33 Is 20 times $\frac{5}{6}$ greater than or less than 20?

Answer

34 Kent and Terry round 1.604 to the hundredths place. Jeff rounded to 1.61, and Terry rounded to 1.60. Who is correct?

35 Melanie made music playlists for her birthday party. She put 10 songs on each playlist. During her party, she played 3 whole playlists plus 4 extra songs. Write an expression to represent the number of songs played during the party.

Answer _____

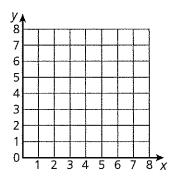
36 A carpet is 2.5 m long and 0.75 m wide. What is the area of the carpet in square meters? Show your work.

Answer	

37 Sandra bought $\frac{2}{3}$ lb of carrots, $\frac{3}{4}$ lb of celery, and $\frac{7}{8}$ lb of onions. How many pounds of vegetables did she buy? Show your work.

Answer		

38 On the coordinate plane below, Beatriz's house is at (1, 7). Beatriz must walk 4 units to the right and 6 units down to get to her school. Plot and label the points for Beatriz's house and the school on the plane.



39 In the number 13,407.036 there are two 3's. Explain how the values of the 3's are related.

- **40** Lem says that $12\frac{3}{4} + 3\frac{3}{4}$ is equal to $15\frac{1}{2}$. Without adding the mixed numbers, how can you tell that he is incorrect?
- **41** Michelle cuts a piece of paper to make a greeting card. Two opposite sides are 8 inches long. The other two opposite sides are 4 inches long. All the sides meet at right angles.

How can this shape be classified? Name all the ways from most specific to most general.

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42 Shiro wants to make an input-output table with numbers of meters as input values and numbers of centimeters as output values. What rule should Shiro use for his table?

Answer			

43 Hadasah's locker is 30 inches tall, 10 inches wide, and 14 inches deep. If her books take up 1,545 in.³ of space, how much space does she have left to hang her coat and bookbag?

44 The table shows the times for five swimmers in the 100-meter race.

List the swimmers in order from fastest to slowest.

Swimmers	Time (in minutes)
Omar	1.194
Craig	1.14
Lance	1.239
Paul	1.21
Serge .	1.139

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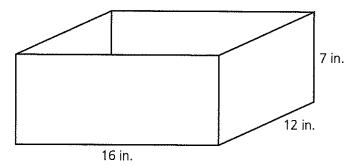
- **45** Warehouse workers need to load 29 boxes of paper onto a truck. Each box weighs 64 pounds. Can the workers do this safely if the truck has a capacity of 9,600 pounds? Explain.
- **46** Fritz is wrapping 8 identical presents. He needs $\frac{3}{5}$ m of ribbon to wrap each present. He needs an additional $\frac{1}{5}$ m of ribbon to make a bow. How much ribbon does he need to wrap and make bows for all 8 presents?

Answer _____

47 Cheryl is planting a row of flowers 10 ft long in her garden. If she plants a flower every $\frac{1}{3}$ ft, how many flowers can she plant? Show your work.

Answer _____

48 Taariq is shopping for cat litter to fill the litter box shown below.



Explain how Taariq can find the volume of the box using a model and cubic units.

49 Sibyl is making a scale drawing of a bridge on a sheet of paper. The actual bridge is 200 feet long. To get the dimensions for the drawing, is Sibyl multiplying by a number greater than 1 or a number less than 1? Explain.

- **50** Germain's chemistry class conducted an experiment. The class broke into groups and each group performed the same experiment. After observing a chemical reaction, each group recorded the mass of the sample. The data set below shows the masses that the groups recorded.
 - $6\frac{1}{2}$ $6\frac{7}{10}$ $6\frac{2}{5}$ $6\frac{1}{2}$ $6\frac{1}{10}$ $6\frac{2}{5}$ $6\frac{2}{5}$ $6\frac{3}{5}$

Make a line plot for the data set.

Read each problem. Write your answer to each part.

- **51** Lucy makes pottery to sell at a flea market. One week, she uses $6\frac{3}{4}$ kg of clay. The next week, she uses only $2\frac{2}{3}$ kg of clay.
 - **Part A** How much clay does Lucy use during the two weeks? Show your work.

Answer			
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Part B The clay comes in blocks that weigh 12 kg. How much clay does Lucy have left after using clay for two weeks? Show your work.

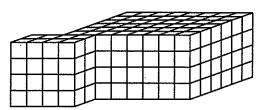
Answer	

- **52** Mrs. Kendrick buys 32 oz of strawberries, 40 oz of oranges, and 52 oz of apples.
 - **Part A** How many pounds of fruit does Mrs. Kendrick buy altogether? Show your work.

Answer _____

Part B To.convert a small unit to a larger one, do you multiply or divide? Explain

53 Roger makes a model of the local library shown below.



Part A Roger uses cubes to make his model. How many cubes does he use?

Answer	
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Part B Each cube represents 100 ft³. Explain how you can use this information and the formula $V = I \times w \times h$ to find the volume of the actual building.

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