



**THIRD SPACE
LEARNING**

Grade 5 End of Year Math Assessment

A tool to assess student
progress at the end of grade 5
or prepare for upcoming state
assessments

Grade 5

Questions

Name:

Class:

Date:

Score:

Circle your answer to each question, like in the example below. You can use any space left below or around a question to show your work, if you need it.

Example Question

Solve $61,435 + 82,870$ using the standard algorithm.

a 143,205

b 144,305

c 69,732

d 145,115

- 1 The table below lists the prices of some of the top selling fruits at the grocery store. Use the table to answer questions number 1 and 2.

Item	Size	Price
Bananas	1 bunch (6 bananas)	\$0.72
Blueberries	10 oz container	\$3.99
Strawberries	16 oz container	\$4.89
Avocado	1 avocado	\$1.29
Watermelon	1 watermelon	\$9.87
Oranges	4 lb bag	\$5.75

How much would it cost to buy 1 watermelon, 1 container of blueberries, and 1 bunch of bananas?

- a \$15.48
 - b \$14.76
 - c \$11.36
 - d \$14.58
-

- 2 How much more would it cost to buy a bag of oranges than a container of strawberries?

- a \$10.64
- b \$1.76
- c \$0.86
- d \$1.14

- 3 A certain fraction is greater than 0 and less than 1. When that fraction is multiplied by 2, which point(s) on the number line could be the answer?



- a Point X
- b Point Y
- c Point W and X
- d Point X and Y

- 4 Jason found the product of 276 and 38. His work is shown below. His teacher was unable to read one of the numbers in his work.

		² ₆ 2	¹ ₄ 7	6
x			3	8
	2	2		8
	8	2	8	0
1	0	4	8	8

What number belongs in the box where the number the teacher can't read is?

- a 0
- b 1
- c 5
- d 6

5 A container of lemonade has $\frac{1}{4}$ gallon left in it. Bella will pour all of the lemonade evenly into 5 glasses. What amount of lemonade, in gallons, will Bella pour into each glass?

a $\frac{1}{20}$ gallon

b $\frac{1}{9}$ gallon

c $\frac{6}{9}$ gallon

d $\frac{4}{5}$ gallon

6 Ben weighs 4 times as much as his little brother. If his little brother weighs 32.7 lbs, how much does Ben weigh?

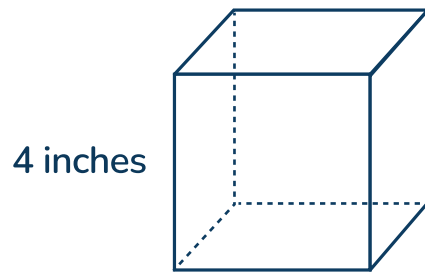
a 130.8 lbs

b 8.175 lbs

c 1,308 lbs

d 81.75 lbs

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



- a $4 \times 4 \times 4$
 - b $6 \times (4 \times 4)$
 - c $6 \times (4 + 4 + 4 + 4)$
 - d $4 + 4 + 4 + 4 + 4 + 4$
-
- 8 Use the correct order of operations to solve the expression below:
 $8 + 25 \times 2 - 40$

- a 26
- b 18
- c 1,216
- d 1,116

9 Emily has been measuring a flower for a science project. The flower has grown $\frac{1}{2}$ of a centimeter each day and has grown a total of 2 centimeters taller. How many days has Emily been measuring this flower?

- a 4 days
 - b $\frac{1}{4}$ of a day
 - c 2 days
 - d 1 day
-

10 Mya and her 3 friends go out to eat at a restaurant. At the end of the meal, the waiter placed the bill on the table. The total said \$98.48. They decided to split the bill equally. How much will each friend pay?

- a \$393.92
- b \$32.83
- c \$24.62
- d \$295.44

11 Which expression has a value of 6 times the difference of 82 and 46?

a $6 \times (82 - 46)$

b $6 \times (82 + 46)$

c $6 \times 82 - 46$

d $82 - 46 \times 6$

12 What fraction of a meter is 5 centimeters?

a $\frac{1}{5}$

b $\frac{1}{20}$

c $\frac{1}{50}$

d $\frac{1}{100}$

13 Jennifer has two sets of numbers.

- The first set starts with 2 and follows a pattern of increasing by 4.
- The second set starts with 41 and follows a pattern of decreasing by 5.

How many numbers do the two sets have in common?

a 4

b 3

c 2

d 1

14 The table below shows the time it took four swimmers to complete their laps in a pool.

Lap Times

Swimmer	Time (Minutes)
1	5.42
2	6.014
3	6.14
4	5.4

Which comparison of these times is NOT correct?

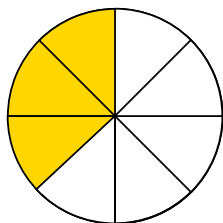
a $5.42 > 5.4$

b $5.4 < 6.14$

c $6.14 = 6.014$

d $6.014 < 6.14$

- 15 Blake and her sister ordered a pizza for dinner. The shaded part of the circle represents the portion of the pizza Blake's sister ate. Blake ate $\frac{1}{4}$ more than her sister.



What fraction of the whole pizza did Blake eat?

- a $\frac{1}{8}$
- b $\frac{8}{8}$ or 1 whole
- c $\frac{4}{8}$
- d $\frac{5}{8}$

- 16 Alexander spent $1\frac{3}{4}$ hours practicing his violin.
How many minutes did Alexander spend practicing his violin?

- a 75
- b 105
- c 175
- d 195

17 What is the correct way to write 302.105 in expanded form?

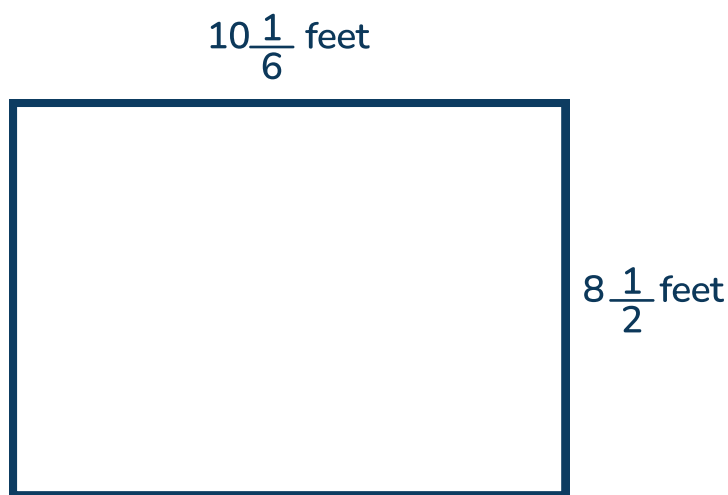
a $3 \times 100 + 2 \times 1 + 1 \times (\frac{1}{10}) + 5 \times (\frac{1}{1000})$

b $3 \times 100 + 2 \times 1 + 1 \times (\frac{1}{100}) + 5 \times (\frac{1}{1000})$

c $3 \times 100 + 2 \times 10 + 1 \times 1 + 5 \times (\frac{1}{10})$

d $3 \times (\frac{1}{100}) + 2 \times (\frac{1}{1}) + 1 \times (\frac{1}{10}) + 5 \times (\frac{1}{1000})$

18 Maxine is getting new carpet installed in her bedroom. The diagram below shows the dimensions of her bedroom floor. If the carpet covers the entire floor, what will be the area of the carpet?



a $18\frac{2}{3}$ square feet

b $37\frac{1}{3}$ square feet

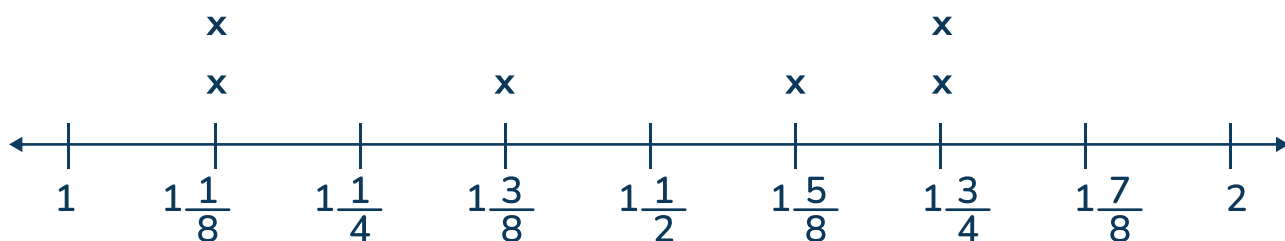
c $86\frac{5}{12}$ square feet

d $80\frac{1}{12}$ square feet

19 Which shape can be classified as a parallelogram?

- a Octagon
- b Triangle
- c Pentagon
- d Rectangle

20 The line plot below shows the heights of Lucy's plants in inches. What is the total height, in inches, of the 3 tallest plants?



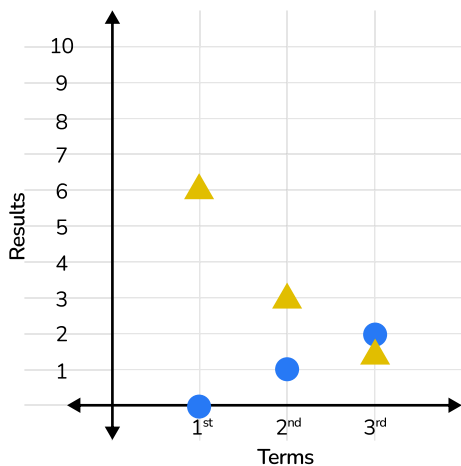
- a $3\frac{11}{6}$ inches
- b $4\frac{3}{8}$ inches
- c $4\frac{3}{4}$ inches
- d $5\frac{1}{8}$ inches

21 The rules for two patterns are below.

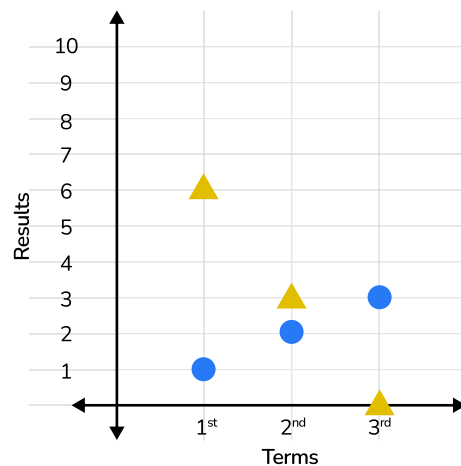
- Pattern J: Start at 1. Add 1.
- Pattern K: Start at 6. Multiply by $\frac{1}{2}$

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

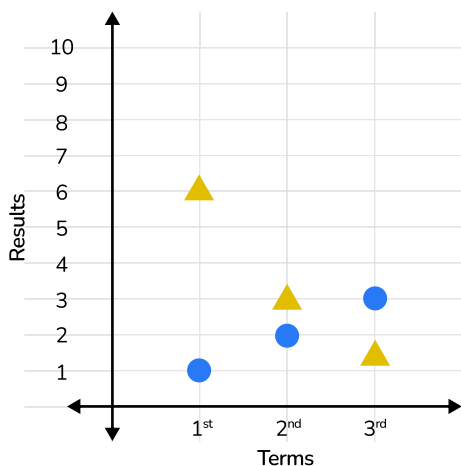
a



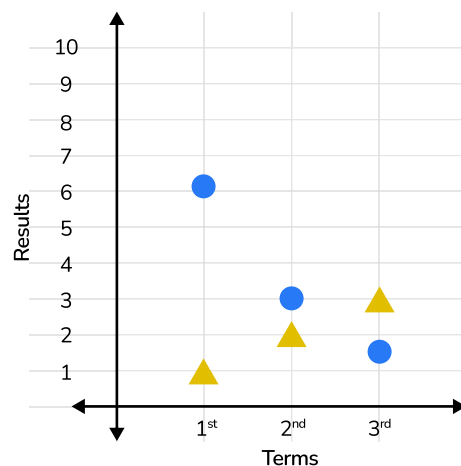
b



c



d



22 Kourtney bought 143.59 pounds of grain to feed the goats at her farm. What is the weight of the grain to the nearest tenth?

a 143.5 lbs

b 140.0 lbs

c 144.0 lbs

d 143.6 lbs

23 One batch of chocolate chip cookies requires $2\frac{2}{3}$ cups of flour. How many cups of flour would be needed to make 5 batches of cookies?

a $13\frac{1}{3}$ cups

b $\frac{8}{15}$ cups

c $7\frac{2}{3}$ cups

d $10\frac{10}{15}$ cups

24 What number is three hundred seven and one hundred eighty six thousandths?

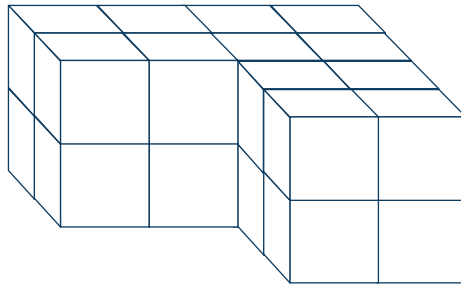
a 307,186

b 3007.186

c 307.186

d 37.186

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



- a 12
- b 24
- c 16
- d 8
-
- 26 A candy shop has 637 pieces of taffy. The taffy will be put into a box that holds 14 pieces each to be sold for \$3.75. How many full boxes of taffy can be created to sell?
- a 45 boxes
- b 46 boxes
- c 651 boxes
- d 640 boxes

27 Violet built a new garden bed in her backyard. She needs to fill it with $10\frac{3}{4}$ cubic yards of soil. She has already poured in $6\frac{1}{2}$ cubic yards of soil. How much more soil does she need to pour in to fill the garden bed?

a $17\frac{1}{4}$ cubic yards

b $4\frac{1}{4}$ cubic yards

c 5 cubic yards

d $4\frac{1}{2}$ cubic yards

28 Which shapes always have 4 right angles?

a Square and rectangle

b Square and parallelogram

c Quadrilateral and parallelogram

d Quadrilateral and rectangle

- 29 Write a number in which the value of the digit 7 is 10 times the value of the digit 7 in 381.07. Explain how you know this number you wrote is correct.

Write the Number Below:

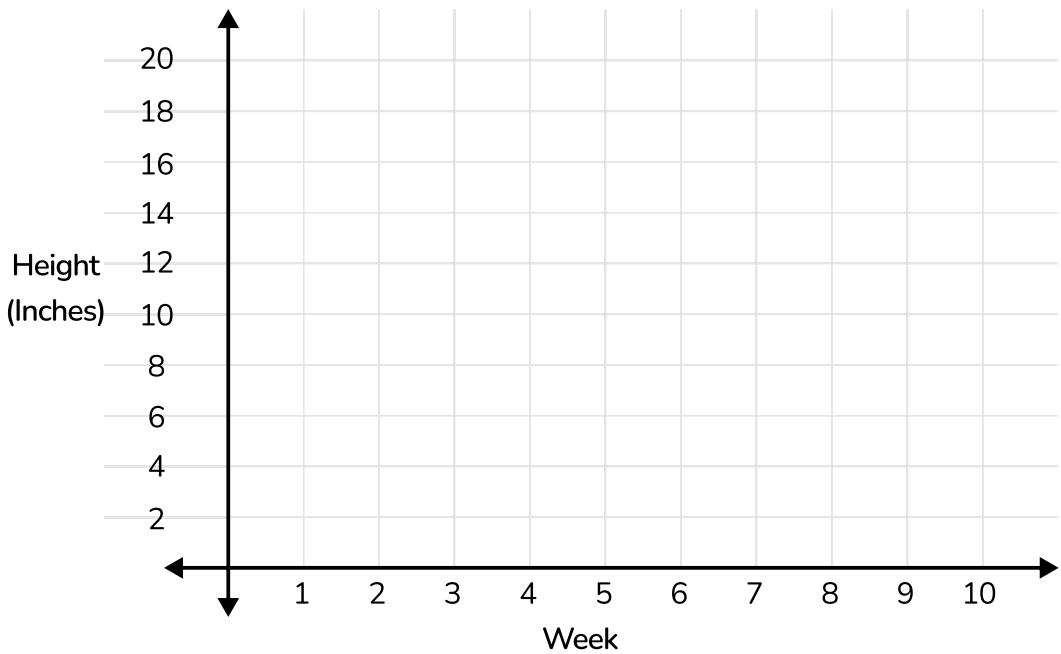
Explain your thinking:

- 30 The garden club planted a seed and then measured the height of the plant each week for ten weeks, rounded to the nearest inch. The table shows the data they collected.

Week	1	2	3	4	5	6	7	8	9	10
Height	1 in.	3 in.	4 in.	5 in.	7 in.	10 in.	12 in.	13 in.	15 in.	16 in.

Part A:

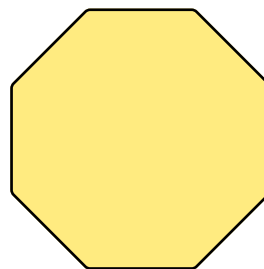
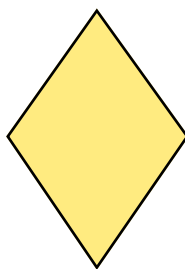
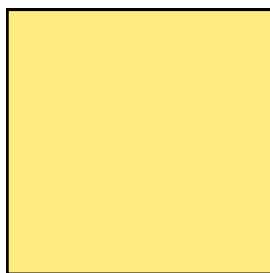
Plot each pair of numbers on the coordinate grid below.



Part B:

During which two weeks did the plant make the greatest amount of growth?
Use the completed grid to explain how you know.

- 31 Three shapes are shown below. The shapes have certain characteristics in common



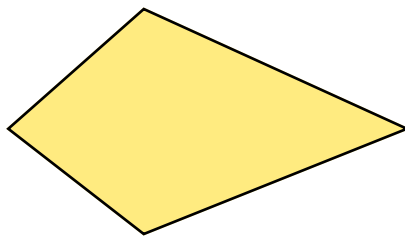
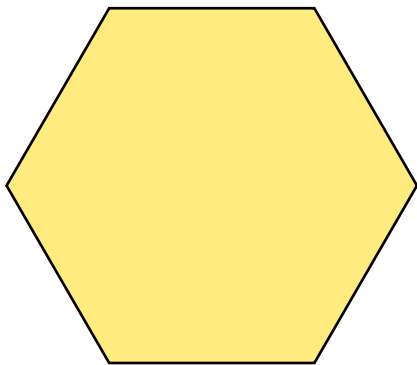
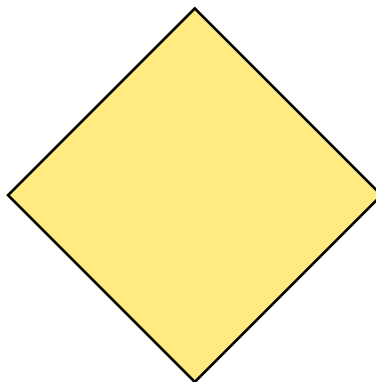
PART A

Select each characteristic that all the shapes have in common. Select as many as five characteristics.

- ☐ All sides of the shape have the same length.
- ☐ The shape has at least 1 obtuse angle.
- ☐ The shape has at least 2 pairs of perpendicular sides.
- ☐ All angles in the shape have the same measure.
- ☐ The shape has at least 2 pairs of parallel sides.

31 Part B:

Select each shape below that also has the common characteristics shared by all the shapes above. Select as many as five shapes.

☐☐☐☐☐

Explain your selection(s) below:

Answers

Question	Answers
<p>1) How much would it cost to buy 1 watermelon, 1 container of blueberries, and 1 bunch of bananas?</p> <p>Standard: 5.NBT.7 DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they misread the table and added the price for strawberries instead of blueberries.</p> <p>b) Incorrect: Students may choose this answer if they added the prices for the watermelon and blueberries, but did not add the bunch of bananas.</p> <p>c) Incorrect: Students may choose this answer if they misread the table and added the price for oranges instead of the watermelon.</p> <p>d) Correct: Students need to add the three prices together; $\\$9.87 + \\$3.99 + \\$0.72 = \\14.58</p>
<p>2) How much more would it cost to buy a bag of oranges than a container of strawberries?</p> <p>Standard: 5.NBT.7, DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they incorrectly add the numbers instead of subtracting.</p> <p>b) Incorrect: Students may choose this answer if they misread the table and subtracted the price of blueberries instead of the price of strawberries.</p> <p>c) Correct: Students need to subtract the price of strawberries from the price of oranges; $\\$5.75 - \\$4.89 = \\$0.86$</p> <p>d) Incorrect: Students may choose this answer if they made calculation mistakes while subtracting - specifically, not regrouping and instead subtracting the smaller number from the bigger number no matter which number is on top or bottom.</p>

Question	Answers
<p>3) A certain fraction is greater than 0 and less than 1. When that fraction is multiplied by 2, which point(s) on the number line could be the answer?</p>	<p>a) Incorrect: Students may choose this answer by only testing one scenario, for instance, choosing a fraction like $\frac{5}{8}$ and multiplying it by 2, getting an answer greater than 1 but less than 2.</p> <p>b) Incorrect: Students may choose this answer if they did not realize the fraction they start with must be less than 1. Point Y is equal to 1×2, meaning their starting fraction must be equal to 1 to get this answer.</p> <p>c) Correct: To determine this answer, students must realize that given this scenario, they can get an answer less than or greater than 1, but not greater than 2. They can think of examples like $\frac{3}{8} \times 2$ for point W, and $\frac{5}{8} \times 2$ for point X.</p> <p>d) Incorrect: Students may choose this answer if they assume any number multiplied by 2 must be greater than 1. They also would have made the mistake that they cannot get point Y as an answer since their starting fraction has to be less than 1, and point Y is the result of multiplying 2 to a fraction equal to 1.</p>
<p>4) Jason found the product of 276 and 38. His work is shown below. His teacher was unable to read one of the numbers in his work.</p> <p>Standard: 5.NBT.5 DOK 2</p>	<p>a) Correct: To determine the unreadable number, the student would have to solve the problem. $6 \times 8 = 48$, regroup the 4; $7 \times 8 = 56 + 4 = 60$, therefore a zero is the missing number.</p> <p>b) Incorrect: The student likely incorrectly used the algorithm to multiply 70×30 ($7 \times 3 = 21$), and placed the 1 in the missing number box.</p> <p>c) Incorrect: The student likely incorrectly used the algorithm to multiply 70×30 ($7 \times 3 = 21$) and added the regrouped 4 from above and placed the 5 in the missing number box.</p> <p>d) Incorrect: The student likely looked at the algorithm and noticed that 7 would be multiplied by 8. $7 \times 8 = 56$ and the student thought the 6 would be the missing number.</p>

Question	Answers
<p>5) A container of lemonade has $\frac{1}{4}$ gallon left in it. Bella will pour all of the lemonade evenly into 5 glasses. What amount of lemonade, in gallons, will Bella pour into each glass?</p> <p>Standard: 5.NF.7.a, 5.NF.7.c* DOK 2</p>	<p>a) Correct: To determine the solution, the student will have to divide $\frac{1}{4}$ by 5, which is $\frac{1}{20}$</p> <p>b) Incorrect: The student likely added 5 to the denominator of $\frac{1}{4}$ to arrive at this answer. The student was most likely applying the algorithm for dividing a fraction by a whole number by taking the reciprocal of 5 but added the denominators.</p> <p>c) Incorrect: The student likely added 5 to the numerator and denominator of $\frac{1}{4}$ when they were supposed to divide $\frac{1}{4}$ by 5.</p> <p>d) Incorrect: The student likely applied the formula for division with fractions incorrectly, by taking the reciprocal of both $\frac{1}{4}$ and 5 and multiplying them together, instead of just taking the reciprocal of 5.</p>
<p>6) Ben weighs 4 times as much as his little brother. If his little brother weighs 32.7 lbs, how much does Ben weigh?</p> <p>Standard: 5.NBT.7 DOK 2</p>	<p>a) Correct: Students should multiply the little brother's weight of 32.7 lbs by 4 to get Ben's weight. $32.7 \times 4 = 130.8$ lbs</p> <p>b) Incorrect: Students may choose this answer if they incorrectly divide 32.7 by 4 instead of multiplying.</p> <p>c) Incorrect: Students may choose this answer if they forget to place the decimal point in their answer.</p> <p>d) Incorrect: Students may choose this answer if they divide instead of multiplying and they misplace the decimal point.</p>
<p>7) Which expression represents the volume, in cubic inches, of this cube?</p> <p>Standard: 5.MD.3.a, 5.MD.3.b, 5.MD.4, 5.MD.5.a 5.MD.5.b* DOK 1</p>	<p>a) Correct: To determine this answer, students must understand that a cube has all equal sides, and must apply the formula for volume of a cube $V = l \times w \times h$ or $V = s \times s \times s$</p> <p>b) Incorrect: Students may choose this answer if they confuse volume with surface area, finding the area of one face, and multiplying this answer by the number of faces on the three-dimensional shape.</p> <p>c) Incorrect: Students may choose this answer if they think of volume as the product of the perimeter of one face, multiplied by the number of faces.</p> <p>d) Incorrect: Students may choose this answer if they think they need to add the side length six times to find the volume. They may have thought they needed to do this six times because there are 6 faces on a cube.</p>

Question	Answers
<p>8) Use the correct order of operations to solve the expression: $8 + 25 \times 2 - 40$</p> <p>Standard: 5.OA.1 DOK 1</p>	<p>a) Incorrect: The student likely did not use order of operations, and solved the problem as it was presented, adding, the multiplying and finally subtracting.</p> <p>b) Correct: The student used the proper order of operations (PEMDAS) to correctly solve the equation given.</p> <p>c) Incorrect: The student likely thought they were to add $8 + 25$ and subtract $40 - 2$, then multiply the two numbers.</p> <p>d) Incorrect: The student likely thought they were to add $8 + 25$ and subtract $40 - 2$, then multiply the two numbers, and made an error in calculation.</p>
<p>9) Emily has been measuring a flower for a science project. The flower has grown $\frac{1}{2}$ of a centimeter each day and has grown a total of 2 centimeters taller. How many days has Emily been measuring this flower?</p> <p>Standard: 5.NF.7b, 5.NF.7c* DOK 2</p>	<p>a) Correct: To determine this answer, students need to divide 2 by $\frac{1}{2}$ and must realize that there are 4 halves in 2.</p> <p>b) Incorrect: Students may choose this answer if they divided $\frac{1}{2}$ by 2 instead of 2 by $\frac{1}{2}$.</p> <p>c) Incorrect: Students may choose this answer if they confused the division algorithm for fractions and somehow solved 2×1 instead.</p> <p>d) Incorrect: Students may choose this answer if they tried using the algorithm for division with fractions, and accidentally multiplied $2 \times \frac{1}{2}$ instead of multiplying 2 by the reciprocal of $\frac{1}{2}$ which is 2.</p>
<p>10) Mya and her 3 friends go out to eat at a restaurant. At the end of the meal, the waiter placed the bill on the table. The total said \$98.48. They decided to split the bill equally. How much will each friend pay?</p> <p>Standard: 5.NBT.7 DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they multiplied instead of dividing.</p> <p>b) Incorrect: Students may choose this answer if they chose the correct operation - division - but divided the total by 3 people instead of 4 people. They may have forgotten to include Mya in the total number of people.</p> <p>c) Correct: Students should divide the total, \$98.48, by the number of people, which is 4. $\\$98.48 \div 4 = \\24.62</p> <p>d) Incorrect: Students may choose this answer if they incorrectly multiplied instead of divided and also misinterpreted the number of people as 3 instead of 4.</p>

Question	Answers
<p>11) Which expression has a value of 6 times the difference of 82 and 46?</p> <p>Standard: 5.OA.2 DOK 1</p>	<p>a) Correct: The student was able to select the correct expression with the knowledge that parenthesis are solved before multiplication. According to this expression, students would subtract $82 - 46$ in the parenthesis before multiplying by 6.</p> <p>b) Incorrect: The student likely is unfamiliar with the meaning of “difference”, and picked addition because it was most familiar to them. According to this expression, students would add $82 + 46$ in the parenthesis before multiplying by 6.</p> <p>c) Incorrect: The student likely recognized that the numbers and operations were correct and selected this answer, but disregarded the order of operations: (1) Parenthesis or brackets, (2) exponents, (3) multiplication or division, (4) addition or subtraction. According to this expression, the student would multiply 6×82 before subtracting 46.</p> <p>d) Incorrect: The student likely solved from left to right, disregarding the order of operations: (1) Parenthesis or brackets, (2) exponents, (3) multiplication or division, (4) addition or subtraction. According to this expression, the student would multiply 6×46 before subtracting from 82.</p>
<p>12) What fraction of a meter is 5 centimeters?</p> <p>Standard: 5.MD.1 DOK 1</p>	<p>a) Incorrect: The student likely wrote the 5 centimeters as the denominator, or misunderstood the relationship between centimeters and meters thinking that there are 25 centimeters in a meter.</p> <p>b) Correct: To determine the answer, the student would need to determine what fraction is equal to $\frac{5}{100}$. There are 100 centimeters in a meter.</p> <p>c) Incorrect: The student likely misunderstood the ratio of centimeters to meters, thinking that there are 250 centimeters in a meter.</p> <p>d) Incorrect: The student likely misunderstood the ratio of centimeters to meters, thinking that there are 500 centimeters in a meter.</p>

Question	Answers
<p>13) Jennifer has two sets of numbers. The first set starts with 2 and follows a pattern of increasing by 4. The second set starts with 41 and follows a pattern of decreasing by 5. How many numbers do the two sets have in common?</p> <p>Standard: 5.OA.3 DOK 3</p>	<p>a) Incorrect: The student was unable to follow the pattern and calculate the numbers to find the correct numbers the two had in common.</p> <p>b) Incorrect: The student was unable to follow the pattern and calculate the numbers to find the correct numbers the two had in common.</p> <p>c) Correct: The student was able to follow the pattern correctly and identify that the numbers had 2 numbers in common (6 and 26).</p> <p>d) Incorrect: The student was unable to follow the pattern and calculate the numbers to find the correct numbers the two had in common.</p>
<p>14) The table below shows the time it took four swimmers to complete their laps in a pool. Which comparison of these times is NOT correct? (see the question for the table)</p> <p>Standard: 5.NBT.3.b DOK 2</p>	<p>a) Incorrect: The student chose a comparison that was true instead of a comparison that is not true. This comparison is true because 0.42 is greater than 0.4.</p> <p>b) Incorrect: The student chose a comparison that was true instead of a comparison that is not true. This comparison is true because 5 ones is less than 6 ones.</p> <p>c) Correct: The student likely compared the two numbers given in the comparison and came to the realization that 6.14 is greater than 6.014, not equal.</p> <p>d) Incorrect: The student chose a comparison that was true instead of a comparison that is not true. This comparison is true because 0.014 is less than 0.14.</p>
<p>15) Blake and her sister ordered a pizza for dinner. The shaded part of the circle represents the portion of the pizza Blake's sister ate. Blake ate $\frac{1}{4}$ more than her sister. What fraction of the whole pizza did Blake eat?</p> <p>Standard: 5.NF.1, 5.NF.2 DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they subtract the 2 amounts instead of adding them.</p> <p>b) Incorrect: Students may choose this answer if they misinterpret what the question is asking. They may think they need to determine how much Blake ate first ($\frac{5}{8}$) and then add the two amounts together ($\frac{5}{8}$ and $\frac{3}{8}$) to determine how much of the whole pizza the two girls ate altogether.</p> <p>c) Incorrect: Students may choose this answer if they look at the diagram and see that $\frac{3}{8}$ are shaded, but then mistakenly add $\frac{1}{4}$ as $\frac{1}{8}$ since there is one unshaded piece on the left side. If they only shade this one piece, they may think the two fractions added together equal $\frac{4}{8}$.</p> <p>d) Correct: Students need to add the amount Blake's sister ate to $\frac{1}{4}$, since Blake ate $\frac{1}{4}$ more than her sister. Her sister ate $\frac{3}{8}$ of the pizza, so $\frac{3}{8} + \frac{1}{4} = \frac{5}{8}$.</p>

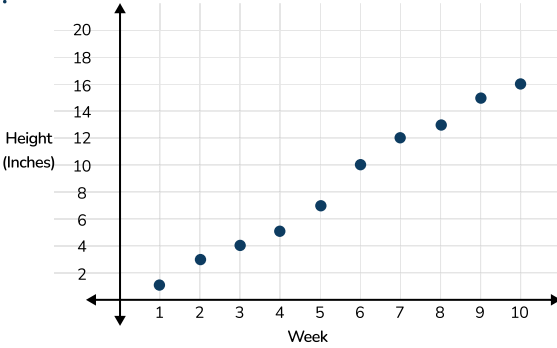
Question	Answers
<p>16) Alexander spent $1\frac{3}{4}$ hours practicing his violin. How many minutes did Alexander spend practicing his violin?</p> <p>Standard: 5.MD.1 DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they figured out $\frac{1}{4}$ of an hour is equal to 15 minutes, but forgot to multiply this by 3 to figure out $\frac{3}{4}$ of an hour, and added 15 minutes to 60 minutes.</p> <p>b) Correct: To determine the answer, students must know that an hour is 60 minutes, and that $\frac{3}{4}$ of 60 is 45, and then must add $60 + 45$ to get their final answer.</p> <p>c) Incorrect: Students may choose this answer if they think that there are 100 minutes in an hour.</p> <p>d) Incorrect: Students may choose this answer if they accidentally solve for $3\frac{1}{4}$ hours in minutes instead of $1\frac{3}{4}$ hours</p>
<p>17) What is the correct way to write 302.105 in expanded form?</p> <p>Standard: 5.NBT.3.a DOK 2</p>	<p>a) Correct: The student correctly wrote the number given in expanded form.</p> <p>b) Incorrect: The student likely recognized the first two numbers being written correctly, and did not check the final two numbers.</p> <p>c) Incorrect: The student appeared to ignore the place value and the placeholder zeros. They wrote the number in expanded form based on the “next” place value, versus the actual place value the number was in.</p> <p>d) Incorrect: The student likely assumed that all numbers needed to be expressed in fraction form.</p>
<p>18) Maxine is getting new carpet installed in her bedroom. The diagram below shows the dimensions of her bedroom floor. If the carpet covers the entire floor, what will be the area of the carpet?</p> <p>Standard: 5.NF.4.b DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they add the two measurements instead of multiplying them.</p> <p>b) Incorrect: Students may choose this answer if they added all four sides to find the perimeter instead of finding the area.</p> <p>c) Correct: To find the area, students need to multiply the length and width of the bedroom; $10\frac{1}{6}\text{ ft} \times 8\frac{1}{2}\text{ ft} = 86\frac{5}{12}\text{ sq ft}$</p> <p>d) Incorrect: Students may choose this answer if they choose the correct operation but they make a calculation error while multiplying. Specifically, they multiply the whole numbers (10×8) then the fractions separately ($\frac{1}{6} \times \frac{1}{2}$)</p>

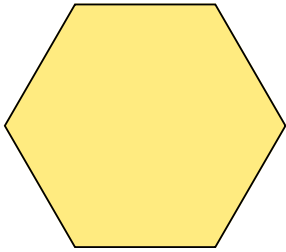
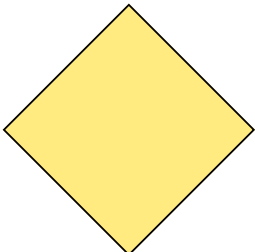
Question	Answers
<p>19) Which shape can be classified as a parallelogram?</p> <p>Standard: 5.G.3*, 5.G.4 DOK 2</p>	<p>a) Incorrect: Students may choose this answer because octagons do have parallel sides, but a parallelogram needs to be a quadrilateral.</p> <p>b) Incorrect: Students may choose this answer if they do not understand a parallelogram as being a quadrilateral with parallel sides.</p> <p>c) Incorrect: Students may choose this answer if they do not understand a parallelogram as being a quadrilateral with parallel sides.</p> <p>d) Correct: To determine this answer, students need to understand a parallelogram as a quadrilateral with two sets of parallel sides, and they need to understand that this definition applies to rectangles.</p>
<p>20) The line plot below shows the heights of Lucy's plants in inches. What is the total height, in inches, of the 3 tallest plants?</p> <p>Standard: 5.MD.2 DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they try to solve $1\frac{3}{4} + 1\frac{3}{4} + 1\frac{5}{8}$ by using a common denominator of 16, but do not change the numerators, and add.</p> <p>b) Incorrect: Students may choose this answer if they try to solve $1\frac{3}{4} + 1\frac{3}{4} + 1\frac{5}{8}$ by using a common denominator of 8, but do not change the numerators, and add.</p> <p>c) Incorrect: Students may choose this answer if they add $1\frac{3}{4} + 1\frac{5}{8} + 1\frac{3}{8}$, not realizing that there are two plants that are $1\frac{3}{4}$ inches.</p> <p>d) Correct: To determine this answer, students add the three tallest plants $1\frac{3}{4} + 1\frac{3}{4} + 1\frac{5}{8}$</p>
<p>21) The rules for two patterns are below. Pattern J: Start at 1. Add 1. Pattern K: Start at 6. Multiply by 12. In the graphs, the circles represent Pattern J and the triangles represent Pattern K. Which graph is correct?</p> <p>Standard: 5.OA.3 DOK 3</p>	<p>a) Incorrect: The student likely selected this answer because the patterns are correct, except that Pattern J starts at 0, not at 1.</p> <p>b) Incorrect: The student likely selected this answer because Pattern J was correct and didn't check to ensure that Pattern K was also correct.</p> <p>c) Correct: The student was able to follow the pattern correctly and identify the graph that had the correct coordinates plotted.</p> <p>d) Incorrect: The student likely picked this answer because the patterns are correct, however the symbols have been reversed, making this incorrect.</p>

Question	Answers
<p>22) Kourtney bought 143.59 pounds of grain to feed the goats at her farm. What is the weight of the grain to the nearest tenth?</p> <p>Standard: 5.NBT.4 DOK 2</p>	<p>a) Incorrect: The student likely recognized the tenths place, but incorrectly rounded down to 143.5.</p> <p>b) Incorrect: The student likely confused tens place and tenths place, and rounded to the wrong place value.</p> <p>c) Incorrect: The student may have a misconception, and used the tenths place to round the ones place to the nearest one.</p> <p>d) Correct: The student rounded 143.59 correctly to the nearest tenth</p>
<p>23) One batch of chocolate chip cookies requires $2\frac{2}{3}$ cups of flour. How many cups of flour would be needed to make 5 batches of cookies?</p> <p>Standard: 5.NF.3, 5.NF.4.a, 5.NF.6 DOK 2</p>	<p>a) Correct: Students need to multiply the amount of flour by the number of batches; $2\frac{2}{3} \times 5 = 13\frac{1}{3}$</p> <p>b) Incorrect: Students may choose this answer if they divide the amount of flour between the 5 batches instead of multiplying.</p> <p>c) Incorrect: Students may choose this answer if they add the two numbers instead of multiplying.</p> <p>d) Incorrect: Students may choose this answer if they choose the correct operation, multiplication, but they make a miscalculation when solving. Specifically, they multiplied the whole number by each number in the mixed number.</p>
<p>24) What number is three hundred seven and one hundred eighty six thousandths?</p> <p>Standard: 5.NBT.3.a DOK 1</p>	<p>a) Incorrect: The student likely read the numbers as whole numbers only and put them in place value order.</p> <p>b) Incorrect: The student likely has some misconceptions about place value and thought that when writing “three hundred”, they needed to include the two zeroes.</p> <p>c) Correct: The student correctly identified the number that represents the word form.</p> <p>d) Incorrect: The student likely has some misconceptions about place value and thought because there was no tens value you left it blank, not adding the placeholder zero.</p>

Question	Answers
<p>25) The composite shape below is made up of unit cubes. What is the volume, in cubic units, of the composite shape?</p> <p>Standard: 5.MD.5.c DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they count the cubes of the top or bottom layer without adding the other layer.</p> <p>b) Correct: To determine this answer, students can either find the volume of a $4 \times 2 \times 2$ rectangle added to the volume of a $2 \times 2 \times 2$ cube, or they can add two layers of 12 together.</p> <p>c) Incorrect: Students may choose this answer if they only solved the volume of the $4 \times 2 \times 2$ rectangle, forgetting the $2 \times 2 \times 2$ rectangle.</p> <p>d) Incorrect: Students may choose this answer if they count all of the unit cubes they can see at least one face of, not realizing that there are unit cubes in this shape that they cannot see any faces of.</p>
<p>26) A candy shop has 637 pieces of taffy. The taffy will be put into a box that holds 14 pieces each to be sold for \$3.75. How many full boxes of taffy can be created to sell?</p> <p>Standard: 5.NBT.6 DOK 2</p>	<p>a) Correct: The student correctly divided and determined that only 45 boxes could be filled completely.</p> <p>b) Incorrect: The student likely interpreted the question to ask how many boxes would be needed, not how many FULL boxes could be created.</p> <p>c) Incorrect: The student likely was unsure what information was needed and how to solve it, and opted to add the number of pieces of candy and the number of pieces that could fit in each box.</p> <p>d) Incorrect: The student likely was unsure what information was needed and how to solve it, and opted to add the number of pieces of candy and the price each box would be sold at.</p>
<p>27) Violet built a new garden bed in her backyard. She needs to fill it with $10 \frac{3}{4}$ cubic yards of soil. She has already poured in $6 \frac{1}{2}$ cubic yards of soil. How much more soil does she need to pour in to fill the garden bed?</p> <p>Standard: 5.NF.1, 5.NF.2 DOK 2</p>	<p>a) Incorrect: Students may choose this answer if they add the two mixed numbers instead of subtracting.</p> <p>b) Correct: Students need to subtract the two mixed numbers; $10 \frac{3}{4} - 6 \frac{1}{2} = 4 \frac{1}{4}$</p> <p>c) Incorrect: Students may choose this answer if they subtract the fractions incorrectly; they may subtract the numerator and denominator to get $\frac{2}{2}$. This would give them an answer of $4 \frac{2}{2}$, which is 5.</p> <p>d) Incorrect: Students may choose this answer if they multiplied $\frac{1}{2}$ by 2 in order to create like denominators, but they only multiplied the denominator and not the numerator, so they ended up with $6 \frac{1}{4}$ instead of $6 \frac{3}{4}$. Then, they subtracted $6 \frac{1}{4}$ from $10 \frac{3}{4}$ to get $4 \frac{1}{2}$.</p>

Question	Answers
<p>28) Which shapes always have 4 right angles?</p> <p>Standard: 5.G.3*, 5.G.4 DOK 2</p>	<p>a) Correct: To determine this answer, students must know that squares and rectangles are made up of all right angles.</p> <p>b) Incorrect: Students may choose this answer if they think parallelograms always have 4 right angles, when they only sometimes do if they are also a rectangle or square.</p> <p>c) Incorrect: Students may choose this answer if they think that quadrilaterals and parallelograms always have 4 right angles, when they only sometimes do if they are also a rectangle or square.</p> <p>d) Incorrect: Students may choose this answer if they think that quadrilaterals always have 4 right angles, when they only sometimes do if they are also a rectangle or square.</p>
<p>29) Write a number in which the value of the digit 7 is 10 times the value of the digit 7 in 381.07. Explain how you know this number you wrote is correct.</p> <p>Standard: 5.NBT.1 DOK 3</p>	<p>2 points: To receive 2 points, students need to write a correct number, and a correct explanation is provided. Number: 381.7</p> <p>1 point: Students will receive 1 point if they only write the correct number or provide a correct and thorough explanation.</p> <p>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.</p>

Question	Answers
<p>30) The garden club planted a seed and then measured the height of the plant each week for ten weeks, rounded to the nearest inch. The table shows the data they collected. Part a: Plot each pair of numbers on the coordinate grid below. Part b: During which two weeks did the plant make the greatest amount of growth? Use the completed grid to explain how you know.</p> <p>Standard: 5.G.1, 5.G.2 DOK 4</p>	<p>4 points: In order to receive 4 points, students need to correctly answer all parts of Part A and Part B. Part B should include a thorough explanation of their answer.</p> <p>Part A: Students must recognize that they can create ordered pairs from the data in the table. The ordered pairs are as follows: (1,1) (2,3) (3,4) (4,5) (5,7) (6,10) (7,12) (8,13) (9,15) (10,16)</p> <p>Each ordered pair should be correctly plotted on the coordinate grid.</p>  <p>Part B: Students should correctly answer that the plant made the greatest amount of growth between week 5 and 6. They should also explain that this is shown on the grid as the points make the greatest vertical jump between those two weeks (7 inches to 10 inches)</p> <p>3 points: In order to receive 3 points, students may answer all parts of Part A and Part B, but they may not have a thorough explanation of how the completed coordinate grid shows the greatest amount of growth between weeks 5 and 6.</p> <p>2 points: In order to receive 2 points, students may</p> <ul style="list-style-type: none"> • make a mistake on Part A, which then causes them to make a math mistake on Part B, as well. (Example: incorrectly plot the points on the graph) • only answer one part correctly. <p>OR</p> <ul style="list-style-type: none"> • fail to explain in a way that lets the teacher know the student can interpret the completed grid correctly. <p>1 point: To receive 1 point, students may get one part of the answer correct (such as plotting the points on the grid)</p> <p>0 points: To receive 0 points, the student must leave the answer blank or get no parts of the problem correct.</p>

Question	Answers
<p>31) Three shapes are shown below. The shapes have certain characteristics in common. Part a: Select each characteristic that all the shapes have in common. Select as many as five characteristics. Part b: Select each shape below that also has the common characteristics shared by all the shapes above. Select as many as five shapes.</p> <p>Standard: 5.G.3, 5.G.4* DOK 4</p>	<p>4 points: In order to receive 4 points, students need to correctly answer all parts of Part A and Part B. Part B should include a thorough explanation of their answer.</p> <p>Part A: Students must select the correct characteristics from the options given: All sides of the shape have the same length AND The shape has at least 2 pairs of parallel sides</p> <p>Part B: Students must select the correct shapes from the options given:</p> <div style="text-align: center;">  AND  </div> <p>Students must include an explanation on how each characteristic is present in each shape.</p> <p>3 points: In order to receive 3 points, students may answer all parts of Part A and Part B, but they may not have a thorough explanation for how their shapes in Part B fit the characteristics in Part A.</p> <p>2 points: In order to receive 2 points, students may</p> <ul style="list-style-type: none"> • make a mistake on Part A, which then causes them to make a mistake on Part B, as well. • only answer one part correctly. <p>OR</p> <ul style="list-style-type: none"> • Both parts are incomplete because only one characteristic was selected in Part A, making the explanation in Part B incomplete as well. <p>1 point: To receive 1 point, students may select the correct options in both parts, but multiple other selections were made in both parts showing a lack of understanding of classifying common characteristics.</p> <p>0 points: To receive 0 points, the student must leave the answer blank or get no parts of the problem correct.</p>

Answer Key - Multiple Choice

Item Number	Correct Answer	Standard(s)	DOK
1	D	5.NBT.7	DOK 2
2	C	5.NBT.7	DOK 2
3	C	5.NF.5.a, 5.NF.5.b*	DOK 4
4	A	5.NBT.5	DOK 2
5	A	5.NF.7.a, 5.NF.7.c*	DOK 2
6	A	5.NBT.7	DOK 2
7	A	5.MD.3.a, 5.MD.3.b, 5.MD.4, 5.MD.5.a 5.MD.5.b*	DOK 1
8	B	5.OA.1	DOK 1
9	A	5.NF.7.b, 5.NF.7.c*	DOK 2
10	C	5.NBT.7	DOK 2
11	A	5.OA.2	DOK 1
12	B	5.MD.1	DOK 1
13	C	5.OA.3	DOK 3
14	C	5.NBT.3.b	DOK 2
15	D	5.NF.1, 5.NF.2	DOK 2
16	B	5.MD.1	DOK 2

End of Year Assessment | Grade 5 | Answer Key




Item Number	Correct Answer	Standard(s)	DOK
17	A	5.NBT.3.a	DOK 2
18	C	5.NF.4.b	DOK 2
19	D	5.G.3* , 5.G.4	DOK 2
20	D	5.MD.2	DOK 2
21	C	5.OA.3	DOK 3
22	D	5.NBT.4	DOK 2
23	A	5.NF.3, 5.NF.4.a, 5.NF.6	DOK 2
24	C	5.NBT.3.a	DOK 1
25	B	5.MD.5.c	DOK 2
26	A	5.NBT.6	DOK 2
27	B	5.NF.1, 5.NF.2	DOK 2
28	A	5.G.3* , 5.G.4	DOK 2

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