



THIRD SPACE
LEARNING

5th Grade Pennsylvania State Test

State Test Grade 5

Grade 5

Questions

Name:

Class:

Date:

Score:

No Calculator For Questions 1 - 6



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

Item	Size	Price
Bananas	1 bunch	\$0.72
Blueberries	10 oz container	\$3.99
Strawberries	16 oz container	\$4.89
Avocado	1 avocado	\$1.29
Watermelon	1 watermelon	\$5.87
Oranges	4 lb bag	\$5.75

1 How much would it cost to buy 1 watermelon and 4 bunches of bananas?

- A. \$34.67
- B. \$6.59
- C. \$24.20
- D. \$8.75

2 Solve: 451×289

- A. 130,339
 - B. 8,569
 - C. 49,159
 - D. 160,339
-

3 Gabin built a new garden bed in his backyard. He needs to fill it with $10\frac{1}{4}$ cubic yards of soil. He has already poured in $8\frac{5}{12}$ cubic yards of soil. How much more soil does he need to pour in to fill the garden bed? Answer in simplest form.

- A. $18\frac{2}{3}$ cubic yards
 - B. $1\frac{5}{6}$ cubic yards
 - C. $2\frac{1}{2}$ cubic yards
 - D. $2\frac{1}{6}$ cubic yards
-

4 Solve: $8,424 \div 27$

- A. 3,120
- B. 330
- C. 312
- D. 33

5 Solve: $\frac{2}{3} \times \frac{5}{6}$. Answer in simplest form.

A. $\frac{20}{36}$

B. $\frac{5}{9}$

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

D. $\frac{4}{5}$

6 Solve: $4.08 - 1.4$

A. 2.68

B. 3.18

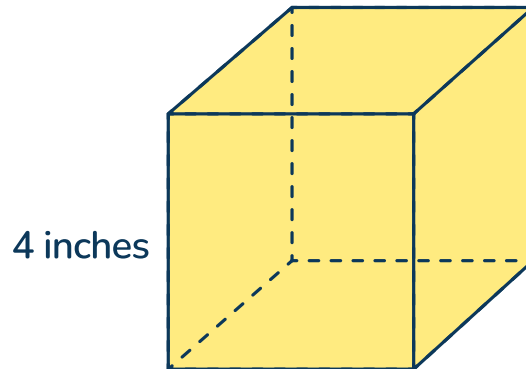
C. 3.4

D. 3.94

Calculator Can Be Used For Questions 7 - 45

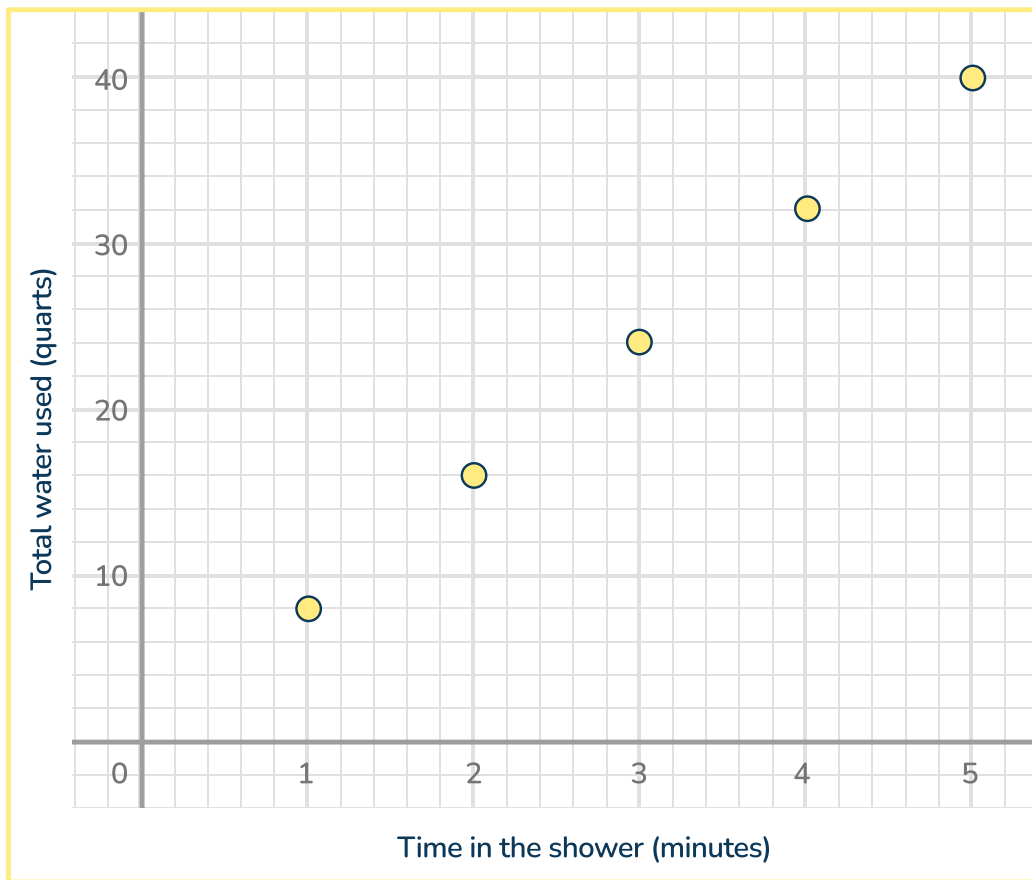


- 7 Which expression represents the volume, in cubic inches, of this cube?



- A. $4 + 4 + 4 + 4 + 4 + 4$
- B. $6 \times (4 + 4 + 4 + 4)$
- C. $4 \times 4 \times 4$
- D. 4×6

- 8 The graph shows how many quarts of water are used, y , depending on how many minutes a shower lasts, x .



Which ordered pair shows the quarts of water used after 4 minutes in the shower?

- A. (4, 31)
- B. (31, 4)
- C. (4, 32)
- D. (32, 4)

- 9 Harley is measuring a plant for a science project. The plant grows $\frac{1}{4}$ of an inch each week. It has grown a total of 2 inches taller. How many weeks has Harley been measuring the plant?

A. 8 weeks

B. $\frac{1}{2}$ of a week

C. $\frac{2}{4}$ weeks

D. 2 weeks

- 10 Yeva and her 3 friends go out to eat at a restaurant. At the end of the meal, the total bill is \$64.92. They decide to split the bill equally. How much will each friend pay?

A. \$21.64

B. \$16.23

C. \$32.46

D. \$194.76

- 11 Use the correct order of operations to solve the expression below:

$$1 + 23 \times 4 - 15 + 8$$

A. 89

B. 70

C. 73

D. 86

- 12 The table below shows the distance that four different paper airplanes flew.

Paper Airplane	Distance (meters)
<i>A</i>	3.42
<i>B</i>	4.314
<i>C</i>	4.24
<i>D</i>	3.4

Which comparison of these times is correct?

- A. $3.42 < 3.4$
 - B. $4.314 > 4.24$
 - C. $4.24 < 3.42$
 - D. $3.4 > 4.314$
-
- 13 Hennie's pattern has a rule of "add 3." Elliot's pattern has a rule of "add 6." Both have a starting number of 0. Which statement correctly compares Hennie and Elliot's patterns?
- A. The numbers in both patterns start odd, then become even.
 - B. The numbers in both patterns alternate between odd and even.
 - C. The numbers in Elliot's pattern are double the numbers in Hennie's.
 - D. The numbers in Elliot's pattern are 3 more than the numbers in Hennie's.

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

A. $\frac{6}{7}$

B. $\frac{7}{6}$

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

D. $\frac{1}{6}$

- 15 What number is four hundred seven and eighty six thousandths?

A. 47.86

B. 4786

C. 407.860

D. 407,086

16



Which name(s) can this shape be classified with? Select all the correct answers.

A. Rhombus

B. Square

C. Rectangle

D. Parallelogram

E. Quadrilateral

17 What is the correct way to write 900.128 in expanded form?

A. $9 \times 100,000 + 1 \times 10 + 2 \times 200 + 8 \times 1,000$

B. $9 \times 100 + 1 \times \left(\frac{1}{10}\right) + 2 \times \left(\frac{1}{100}\right) + 8 \times \left(\frac{1}{1,000}\right)$

C. $9 \times 10 + 1 \times \left(\frac{1}{1}\right) + 2 \times \left(\frac{1}{10}\right) + 3 \times \left(\frac{1}{100}\right)$

D. $9 \times 100 + 1 \times 1 + 2 \times \left(\frac{1}{10}\right) + 8 \times \left(\frac{1}{100}\right)$

18 Richie has 35 fish. He has six fish tanks. He places 3 fish in each tank and then gives half of the fish left to his cousin. Which expression matches the story?

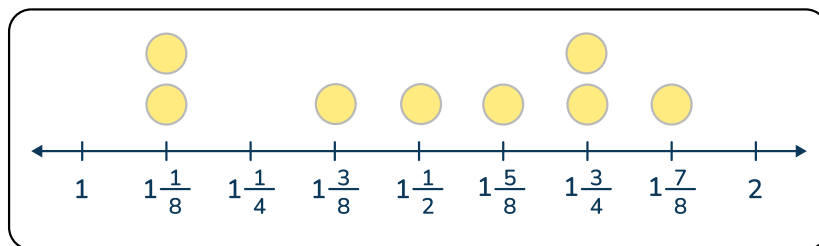
A. $35 - 6 \times 3 - 2$

B. $(35 - 6 \times 3) \div 2$

C. $35 - 6 \times 3 \div 2$

D. $(35 - 6 \times 3) - 2$

- 19 The line plot below shows the heights of Micah's plants in inches. What is the total height, in inches, of the 2 tallest plants?

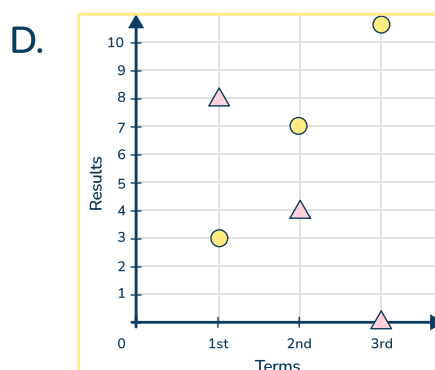
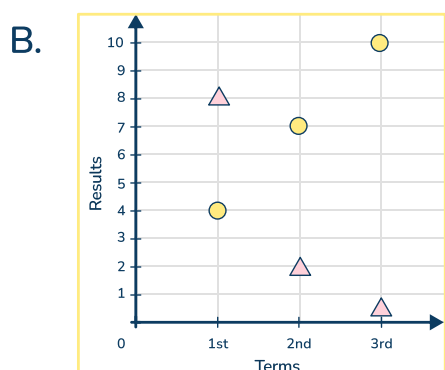
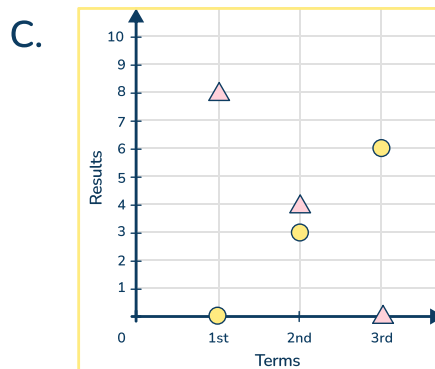
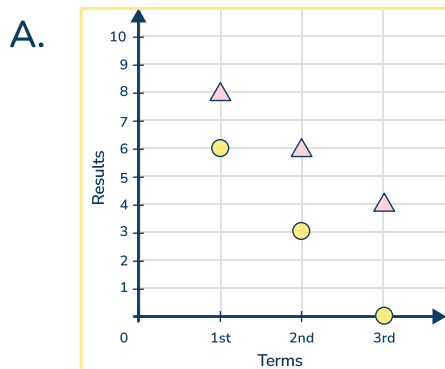


- A. $3\frac{5}{8}$ inches
 B. $2\frac{5}{6}$ inches
 C. $2\frac{7}{8}$ inches
 D. $5\frac{3}{4}$ inches

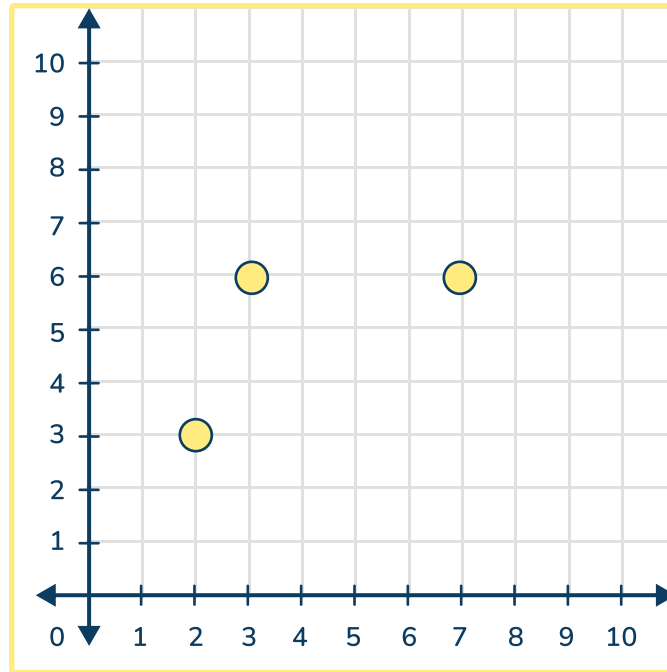
- 20 The rules for two patterns are below.

- Pattern Triangle: Start at 8. Multiply by $\frac{1}{4}$.
- Pattern Circle: Start at 4. Add 3.

Which graph correctly shows both patterns?



21



Which point can be added, so that connecting all 4 points forms a parallelogram?

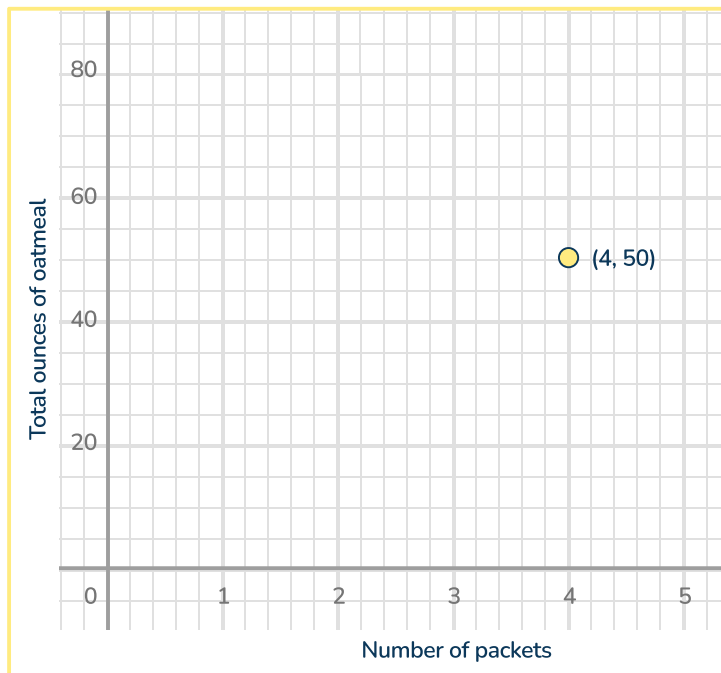
- A. (8,3)
- B. (2,6)
- C. (6,3)
- D. (5,4)

22

Round 17,792.061 to the nearest hundredth.

- A. 17,800
- B. 17,792
- C. 17,792.1
- D. 17,792.06

- 23 The graph shows the total number of ounces in any number of packets of oatmeal.

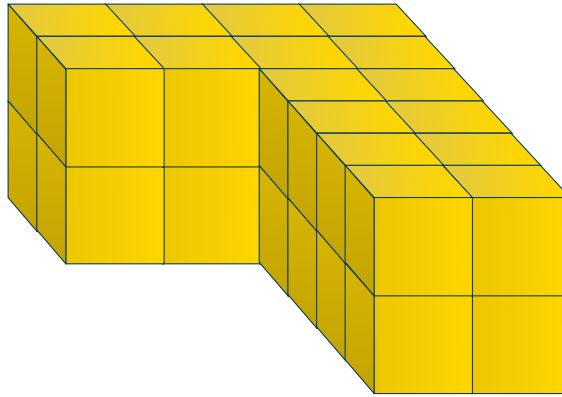


Which statement correctly explains the meaning of (4, 50) on the graph?

- A. Each packet of oatmeal is 4 ounces.
 - B. 4 packets of oatmeal have 50 total ounces.
 - C. 50 packets of oatmeal have 4 total ounces.
 - D. There are 50 ounces in a packet of oatmeal.
-
- 24 Fiona is stacking cans on shelves. There are 4 shelves. Each shelf has 11 cans. Each can weighs 15.25 ounces. What is the total weight of all the cans on the shelves?

- A. 671 ounces
- B. 228.75 ounces
- C. 211.75 ounces
- D. 105 ounces

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



- A. 18
B. 32
C. 24
D. 26
-
- 26 Polly has $\frac{4}{3}$ as many points as Niah. Niah has $\frac{6}{5}$ as many points as Van. Which statement is true?

- A. Polly has less points than Niah.
B. Van has more points than Niah.
C. Polly and Van have the same amount of points.
D. Van has less points than Polly.
-

- 27 What is the first step completed when adding $\frac{6}{7}$ and $\frac{8}{5}$?

- A. Find a common denominator for 7 and 5.
B. Convert $\frac{8}{5}$ to a mixed number.
C. Add 6 and 8.
D. Cross multiply 7 and 8, then 6 and 5.

28 What two properties do a square and parallelogram have?

- A. All sides are congruent, there are four sides
 - B. All angles are right angles, all sides are parallel
 - C. All sides are parallel, there are four sides
 - D. There are four sides, all angles are right angles
-

29 Gianna spent $6\frac{3}{4}$ hours practicing the drums this week. How many minutes did Gianna spend practicing the drums?

- A. 675 minutes
 - B. 360 minutes
 - C. 435 minutes
 - D. 405 minutes
-

30 $2.4 \times 10^? = 2,400$
Which value for ? makes the equation true?

- A. 2
- B. 3
- C. 100
- D. 1,000

- 31 A fruit salad recipe requires $1\frac{2}{3}$ cups of blueberries. How many cups of blueberries would be needed to make $5\frac{1}{2}$ fruit salad recipes?

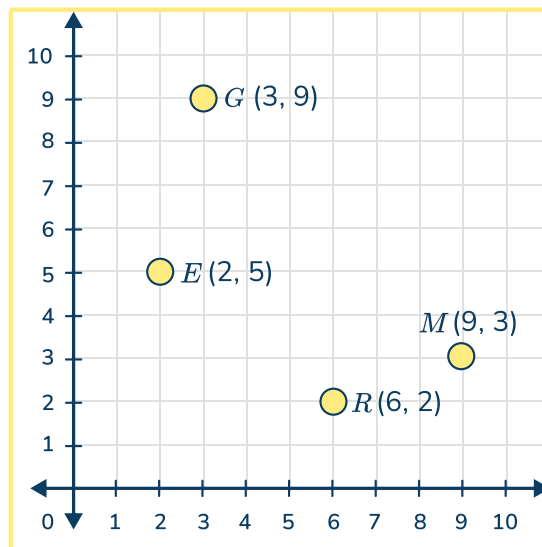
A. $9\frac{1}{6}$ cups

B. 55 cups

C. $5\frac{1}{3}$ cups

D. $11\frac{1}{2}$ cups

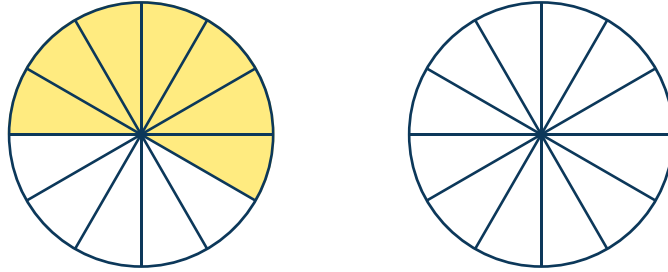
- 32 Riley says “I plotted a point whose x coordinate is three less than the y coordinate”.



Which point did Riley plot?

- A. Point G
- B. Point M
- C. Point E
- D. Point R

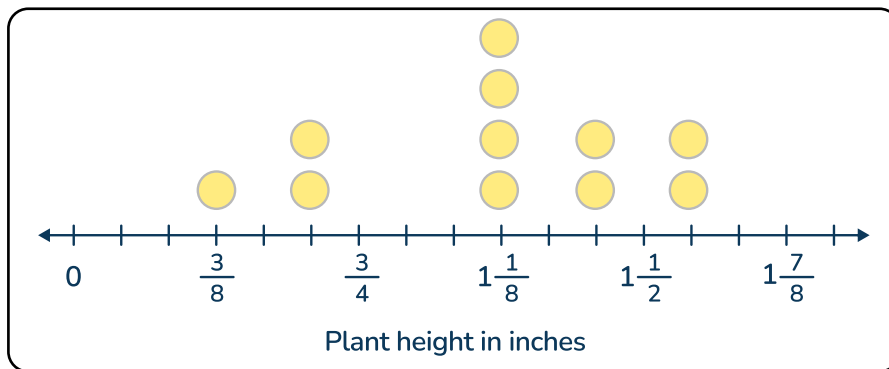
- 33 Indira and her sister ordered two pizzas for dinner. The shaded part of the circle represents the portion of the pizza Indira's sister ate. Indira ate $\frac{1}{3}$ more than her sister.



How much pizza was left over?

- A. $\frac{11}{12}$
- B. $1\frac{1}{2}$
- C. $\frac{2}{3}$
- D. $1\frac{1}{3}$

- 34 A class is growing plants for a science experiment. Below is the height of the plants after one week.



Taylor adds a plant to the graph. Now the difference between the tallest and shortest plant is $1\frac{3}{8}$. What is the height of the plant Taylor added?

- A. $1\frac{7}{8}$ inches
- B. $1\frac{1}{2}$ inches
- C. $\frac{1}{4}$ inches
- D. $\frac{1}{8}$ inches
-
- 35 Story: Kenji has $\frac{1}{3}$ of a cup of fish food. He uses it to feed 3 fish equally. How much food does each fish get?

Which expression fits the story context?

- A. $\frac{1}{9} \div 3$
- B. $\frac{1}{9} - \frac{1}{3}$
- C. $\frac{1}{3} \times 3$
- D. $\frac{1}{3} \div 3$

36 Complete the statement: 7,000 is ____ times the size of 70,000.

A. 100

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

C. 10

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

37 Which operation will be performed first when solving $5^2 + 2(7 \times 3 - 1)$?

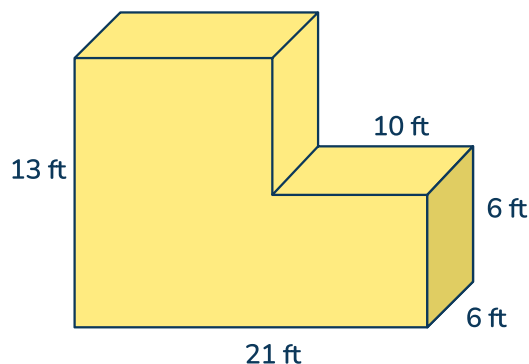
A. 7×3

B. $3 - 1$

C. 5^2

D. $2(7)$

38 An aquarium just purchased a new tank for fish. It is made of two rectangular prisms, as shown below.



What is the volume, in cubic feet, of the new tank?

A. 633

B. 1,218

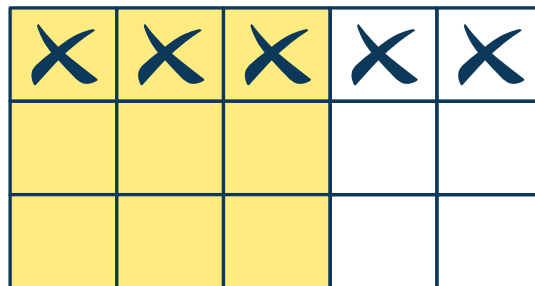
C. 1,278

D. 1,638

39 How many centimeters are in 0.08 meters?

- A. 0.8 cm
- B. 8 cm
- C. 80 cm
- D. 800 cm

40 Gabriel multiplies two fractions by drawing the model below.



Which expression represents the model?

- A. $\frac{3}{9} \times \frac{2}{6}$
- B. $\frac{9}{15} \times \frac{5}{15}$
- C. $\frac{3}{5} \times \frac{1}{3}$
- D. $\frac{6}{10} \times \frac{3}{5}$

41 What fraction of a gallon is 2 pints?

A. $\frac{1}{4}$

B. $\frac{1}{2}$

C. $\frac{1}{8}$

D. $\frac{1}{6}$

42 A certain fraction is greater than $\frac{1}{2}$ and less than 1. When that fraction is multiplied by 3, which point on the number line could be the answer?



A. Point U

B. Point V

C. Point W

D. Point X

43 Marco found the product of 681 and 72. His work is shown below. His teacher was unable to read one of the numbers in his work.

			5		
			1		
			6	8	1
		×		7	2
		¹ 1,	¹ 3	6	2
+	4	7,		7	0
	4	9,	0	3	2

What missing number belongs in the box?

- A. 7
- B. 6
- C. 5
- D. 4

44 Which expression shows ‘7 less than the quotient of 2 and 4’?

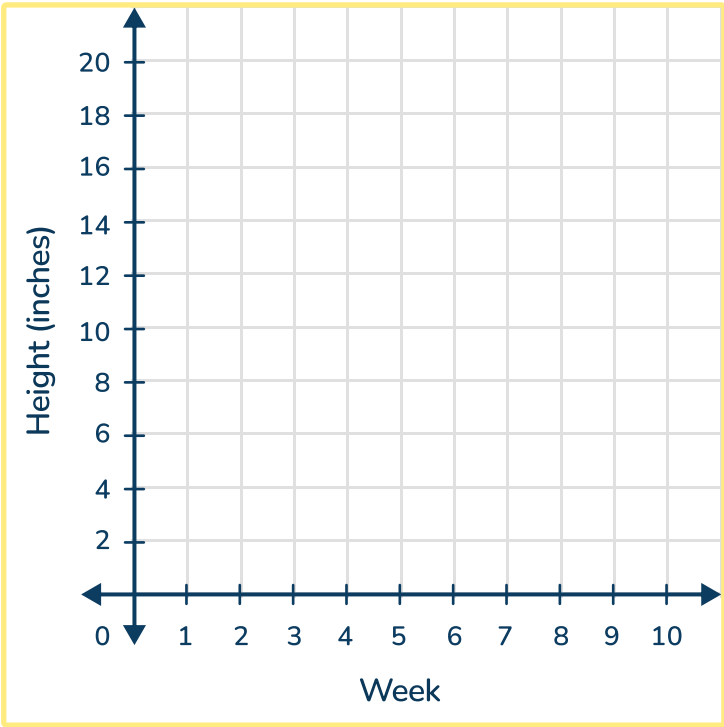
- A. $\frac{2}{4} - 7$
- B. $7 - (2 + 4)$
- C. $2 \times 4 - 7$
- D. $7 - 2 \div 4$

Open Ended Question

45 A farmer 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 the farmer collected.

Week	1	2	3	4	5	6	7	8	9	10
Height	2 in.	3 in.	5 in.	8 in.	10 in.	12 in.	14 in.	15 in.	16 in.	17 in.

a. Plot each pair of numbers on the coordinate grid below.



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

Answer Key - Multiple Choice

Item number	Correct answer	Standard(s)	DOK
1	D	M05.A-T.2.1.3	DOK 2
2	A	M05.A-T.2.1.1	DOK 1
3	B	M05.A-F.1.1.1	DOK 2
4	C	M05.A-T.2.1.2	DOK 1
5	B	M05.A-F.2.1.2	DOK 1
6	A	M05.A-T.2.1.3	DOK 1
7	C	M05.D-M.3.1.1	DOK 1
8	C	M05.C-G.1.1.2	DOK 1
9	A	M05.A-F.2.1.4	DOK 2
10	B	M05.A-T.2.1.3	DOK 2
11	D	M05.B-O.1.1.1	DOK 1
12	B	M05.A-T.1.1.4	DOK 1
13	C	M05.B-O.2.1.1, M05.B-O.2.1.2	DOK 2
14	A	M05.A-F.2.1.1	DOK 2
15	D	M05.A-T.1.1.3	DOK 1
16	C, D, E	M05.C-G.2.1.1	DOK 2
17	B	M05.A-T.1.1.3	DOK 1

Pennsylvania State Test | Grade 5 | Answers

Item number	Correct answer	Standard(s)	DOK
18	B	M05.B-O.1.1.2	DOK 2
19	A	M05.D-M.2.1.1	DOK 2
20	B	M05.B-O.2.1.1, M05.C-G.1.1.2	DOK 2
21	C	M05.C-G.2.1, M05.C-G.1.1.1	DOK 2
22	D	M05.A-T.1.1.5	DOK 1
23	B	M05.C-G.1.1.2	DOK 2
24	A	M05.A-T.2.1.3	DOK 2
25	B	M05.D-M.3.1.2	DOK 2
26	D	M05.A-F.2.1.3	DOK 2
27	A	M05.A-F.2.1.2	DOK 1
28	C	M05.C-G.2.1.1	DOK 1
29	D	M05.D-M.1.1.1	DOK 2
30	B	M05.A-T.1.1.2	DOK 1
31	A	M05.A-F.2.1.2	DOK 2
32	C	M05.C-G.1.1.1	DOK 1
33	B	M05.A-F.1.1.1	DOK 2
34	C	M05.D-M.2.1.1	DOK 2
35	D	M05.A-F.2.1.4	DOK 2

Pennsylvania State Test | Grade 5 | Answers

Item number	Correct answer	Standard(s)	DOK
36	B	M05.A-T.1.1.1	DOK 1
37	A	M05.B-O.1.1.1	DOK 1
38	B	M05.D-M.3.1.2	DOK 1
39	B	M05.D-M.1.1.1	DOK 1
40	C	M05.A-F.2.1.2	DOK 2
41	A	M05.D-M.1.1.1	DOK 1
42	C	M05.A-F.2.1.3	DOK 2
43	B	M05.A-T.2.1.1	DOK 2
44	A	M05.B-O.1.1.2	DOK 1

Item	KEY	Rationale																						
45	4 points	<p>In order to receive 4 points, students need to correctly answer all parts of the question. Part b should include a thorough explanation of their answer.</p> <p>a. Students must recognize that they can create ordered pairs from the data in the table. The ordered pairs are as follows: (1,2) (2,3) (3,5) (4,8) (5,10) (6,12) (7,14) (8,15) (9,16) (10,17)</p> <p>Each ordered pair should be correctly plotted on the coordinate grid.</p> <div><table><caption>Data points from the coordinate grid</caption><tr><th>Week</th><th>Height (inches)</th></tr><tr><td>1</td><td>2</td></tr><tr><td>2</td><td>3</td></tr><tr><td>3</td><td>5</td></tr><tr><td>4</td><td>8</td></tr><tr><td>5</td><td>10</td></tr><tr><td>6</td><td>12</td></tr><tr><td>7</td><td>14</td></tr><tr><td>8</td><td>15</td></tr><tr><td>9</td><td>16</td></tr><tr><td>10</td><td>17</td></tr></table></div> <p>b. Students should correctly answer that the plant made the greatest amount of growth between week 3 and 4. They should also explain that this is shown on the grid as the points make the greatest vertical jump between those two weeks (5 inches to 8 inches).</p>	Week	Height (inches)	1	2	2	3	3	5	4	8	5	10	6	12	7	14	8	15	9	16	10	17
Week	Height (inches)																							
1	2																							
2	3																							
3	5																							
4	8																							
5	10																							
6	12																							
7	14																							
8	15																							
9	16																							
10	17																							
	3 points	<p>In order to receive 3 points, students may answer all parts of a and b, but they may not have a thorough explanation of how the completed coordinate grid shows the greatest amount of growth between weeks 3 and 4.</p>																						
	2 points	<p>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.																						
	1 point	<p>To receive 1 point, students may get one part of the answer correct (such as plotting the points on the grid).</p>																						

Pennsylvania State Test | Grade 5 | Questions

Item	KEY	Rationale
	0 points	To receive 0 points, the student must leave the answer blank or get no parts of the problem correct.

ANSWERS SORTED BY STANDARD

CC.2.1.5.B.1			
12	B	M05.A-T.1.1.4	DOK 1
15	D	M05.A-T.1.1.3	DOK 1
17	B	M05.A-T.1.1.3	DOK 1
22	D	M05.A-T.1.1.5	DOK 1
30	B	M05.A-T.1.1.2	DOK 1
36	B	M05.A-T.1.1.1	DOK 1

CC.2.1.5.B.2			
1	D	M05.A-T.2.1.3	DOK 2
2	A	M05.A-T.2.1.1	DOK 1
4	C	M05.A-T.2.1.2	DOK 1
6	A	M05.A-T.2.1.3	DOK 1
10	B	M05.A-T.2.1.3	DOK 2
24	A	M05.A-T.2.1.3	DOK 2
43	B	M05.A-T.2.1.1	DOK 2

CC.2.1.5.C.1			
3	B	M05.A-F.1.1.1	DOK 2
33	B	M05.A-F.1.1.1	DOK 2

CC.2.1.5.C.2			
5	B	M05.A-F.2.1.2	DOK 1
9	A	M05.A-F.2.1.4	DOK 2
14	A	M05.A-F.2.1.1	DOK 2
26	D	M05.A-F.2.1.3	DOK 2
27	A	M05.A-F.2.1.2	DOK 1
31	A	M05.A-F.2.1.2	DOK 2
35	D	M05.A-F.2.1.4	DOK 2
40	C	M05.A-F.2.1.2	DOK 2
42	C	M05.A-F.2.1.3	DOK 2

CC.2.2.5.A.1			
11	D	M05.B-O.1.1.1	DOK 1
18	B	M05.B-O.1.1.2	DOK 2
37	A	M05.B-O.1.1.1	DOK 1
44	A	M05.B-O.1.1.2	DOK 1

CC.2.2.5.A.4			
13	C	M05.B-O.2.1.1, M05.B-O.2.1.2	DOK 2
20	B	M05.B-O.2.1.1, M05.C-G.1.1.2	DOK 2

CC.2.3.5.A.1			
8	C	M05.C-G.1.1.2	DOK 1
23	B	M05.C-G.1.1.2	DOK 2
32	C	M05.C-G.1.1.1	DOK 1
45	Answer shown after open-ended response question	M05.C-G.1.1.2, M05.D-M.2.1.2	DOK 2

CC.2.3.5.A.2			
16	C, D, E	M05.C-G.2.1.1	DOK 2
21	C	M05.C-G.2.1, M05.C-G.1.1.1	DOK 2
28	C	M05.C-G.2.1.1	DOK 1

CC.2.4.5.A.1			
29	D	M05.D-M.1.1.1	DOK 2
39	B	M05.D-M.1.1.1	DOK 1
41	A	M05.D-M.1.1.1	DOK 1

CC.2.4.5.A.2, CC.2.4.5.A.4			
19	A	M05.D-M.2.1.1	DOK 2
34	C	M05.D-M.2.1.1	DOK 2

CC.2.3.5.A.2			
7	C	M05.D-M.3.1.1	DOK 1
25	B	M05.D-M.3.1.2	DOK 2
38	B	M05.D-M.3.1.2	DOK 1