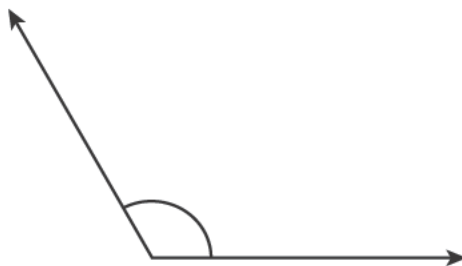


1 The population of a certain city is 836,527. What is the population of this city rounded to the nearest ten thousand?

- A 800,000
- B 830,000
- C 836,000
- D 840,000

2 What is the measure of the angle shown below?



- A 60°
- B 90°
- C 110°
- D 120°

GO ON

3 Which expression is equivalent to $\frac{7}{10} - \frac{2}{10}$?

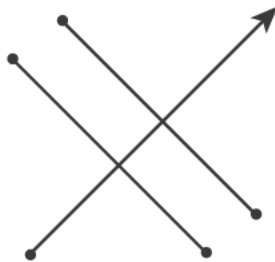
A $\frac{2}{10} + \frac{3}{10}$

B $\frac{5}{10} + \frac{4}{10}$

C $\frac{1}{5} + \frac{4}{5}$

D $\frac{3}{6} + \frac{2}{4}$

4 Which statement **best** describes the figure shown below?



A The ray appears to be perpendicular to 2 line segments that appear to be parallel.

B The ray appears to be parallel to 2 line segments that appear to be perpendicular.

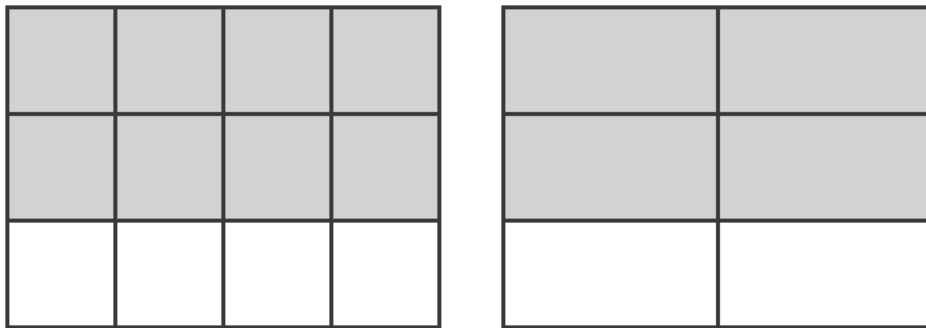
C The line segment appears to be perpendicular to 2 lines that appear to be parallel.

D The line segment appears to be parallel to 2 lines that appear to be perpendicular.

5 What is the product of 32×67 ?

- A 1,824
- B 1,934
- C 2,044
- D 2,144

6 The models below are shaded to represent equivalent fractions.



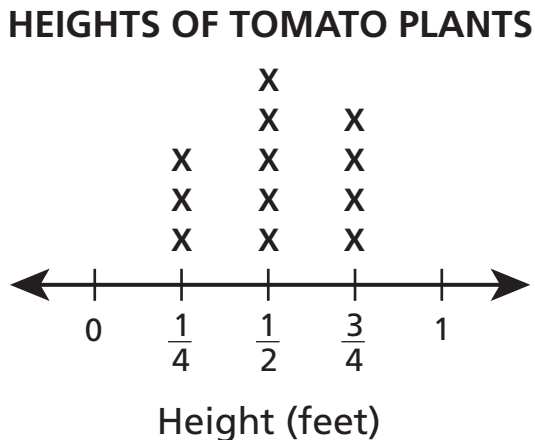
Which fraction is equivalent to the fractions shown by the models?

- A $\frac{2}{3}$
- B $\frac{4}{8}$
- C $\frac{6}{10}$
- D $\frac{9}{12}$

GO ON

- 7 What is the measure of an angle that turns through $\frac{3}{4}$ of a complete circle?
- A 34°
 - B 43°
 - C 75°
 - D 270°

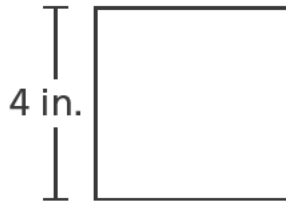
- 8 Andrew is growing tomato plants in his garden. The line plot below shows the height of each tomato plant on Wednesday.



What was the difference in height between the tallest plant and the shortest plant?

- A $\frac{1}{4}$ foot
- B $\frac{2}{4}$ foot
- C $\frac{3}{4}$ foot
- D $\frac{4}{4}$ foot

- 11 A square is shown below.



Kelsey drew a rectangle with the same area as the square. The length of Kelsey's rectangle is 8 inches. What is the perimeter, in inches, of Kelsey's rectangle?

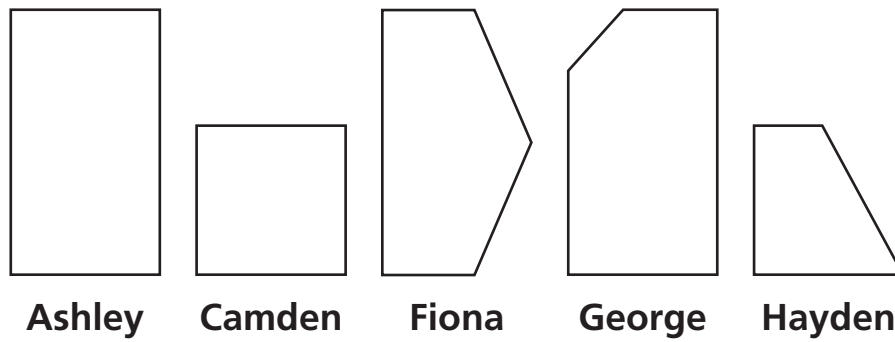
- A 10
B 16
C 20
D 32
- 12 Some bakers make apple pies.
- They have 15 boxes of apples.
 - Each box has 18 apples.
 - They use 7 apples for each pie.

What is the total number of apple pies that the bakers can make?

- A 33
B 38
C 39
D 40

15

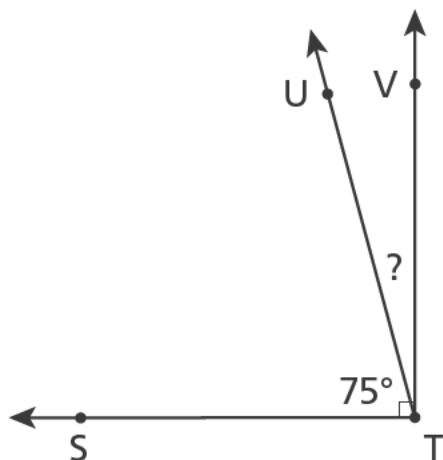
The shapes that each of 5 students drew are shown below.



Which list has the names of all the students who drew quadrilaterals?

- A Fiona and George
- B Ashley and Camden
- C Ashley, Camden, and Hayden
- D Ashley, Camden, Fiona, and George

- 16 Angles STU and UTV combine to form right angle STV.



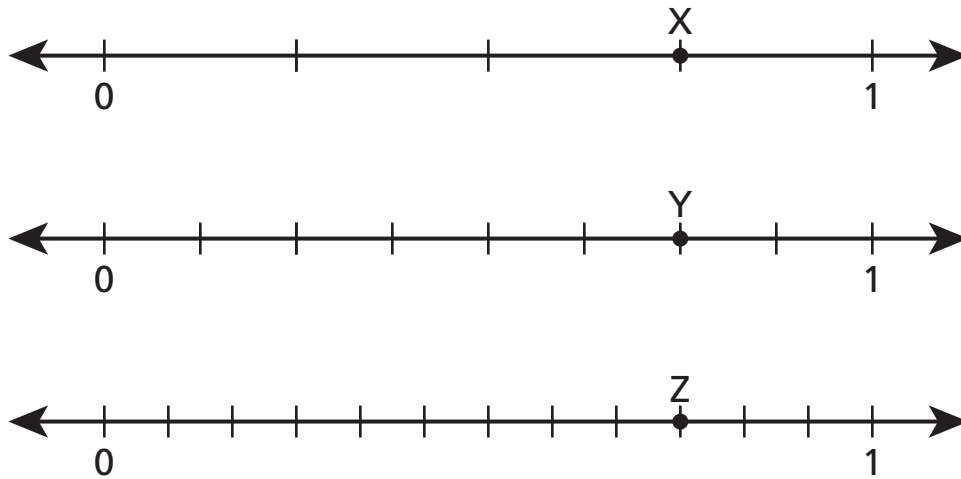
Which expression could be used to find the measure, in degrees, of angle UTV?

- A $90 - 75$
- B $90 + 75$
- C $180 - 75$
- D $180 + 75$

GO ON

17

On the number lines shown below, points Y and Z represent fractions that are equivalent to the fraction represented by point X.

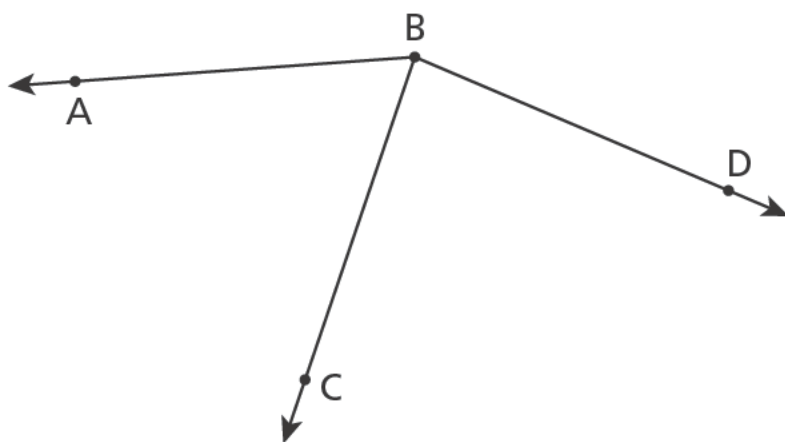


Which fractions do points Y and Z represent on the number lines?

- A Point Y represents $\frac{4}{6}$ and point Z represents $\frac{8}{12}$.
- B Point Y represents $\frac{4}{6}$ and point Z represents $\frac{9}{12}$.
- C Point Y represents $\frac{6}{8}$ and point Z represents $\frac{8}{12}$.
- D Point Y represents $\frac{6}{8}$ and point Z represents $\frac{9}{12}$.

21

In the diagram below, angle ABD measures 153° and angle ABC measures 67° .



What is the measure of angle CBD?

- A 84°
- B 86°
- C 94°
- D 96°

22 What is the quotient of $1,224 \div 9$?

- A 135
- B 136
- C 1,215
- D 1,360

STOP

23 Which number is a multiple of 7?

A 27

B 48

C 56

D 74

GO ON

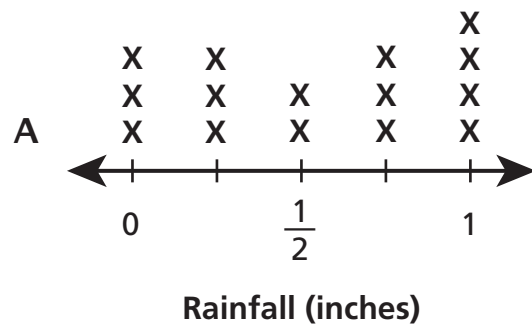
For a science project, Joseph recorded the amount of rainfall each day for 2 weeks. The table below shows his data.

RAINFALL FOR TWO WEEKS

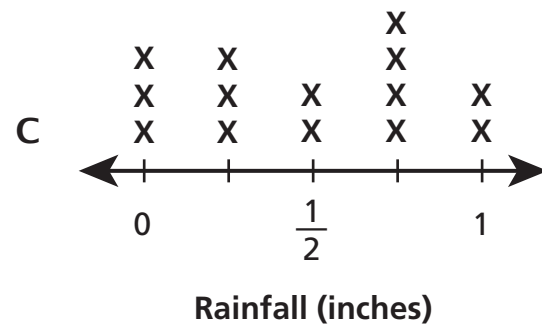
Inches of Rainfall	0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Number of Days	3	3	2	4	2

Which line plot correctly displays Joseph's data?

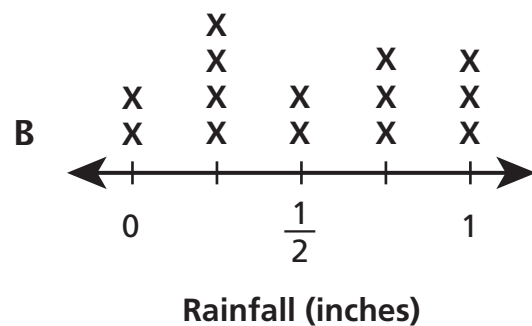
RAINFALL FOR TWO WEEKS



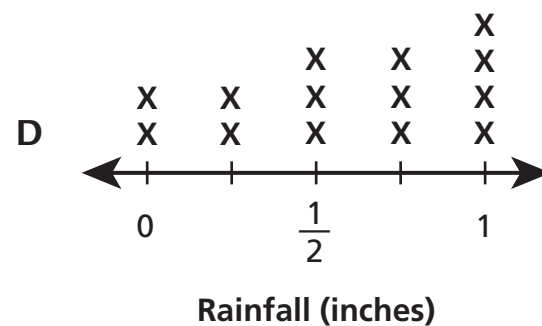
RAINFALL FOR TWO WEEKS



RAINFALL FOR TWO WEEKS



RAINFALL FOR TWO WEEKS



25 A student has 3 puzzles. Each puzzle has 1,250 pieces. What is the total number of pieces in the puzzles?

A 3,650

B 3,750

C 4,650

D 4,750

26 A baseball cap costs \$8. A matching shirt costs 4 times as much as the cap. Which of the following can be used to determine the cost of the shirt?

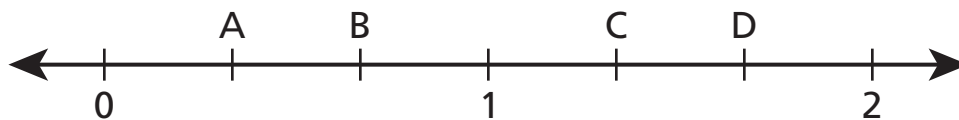
A $8 \div 2 = \underline{\quad? \quad}$

B $8 - 4 = \underline{\quad? \quad}$

C $8 + 4 = \underline{\quad? \quad}$

D $8 \times 4 = \underline{\quad? \quad}$

27 Which letter on the number line below represents a fraction equivalent to $\frac{4}{6}$?



A A

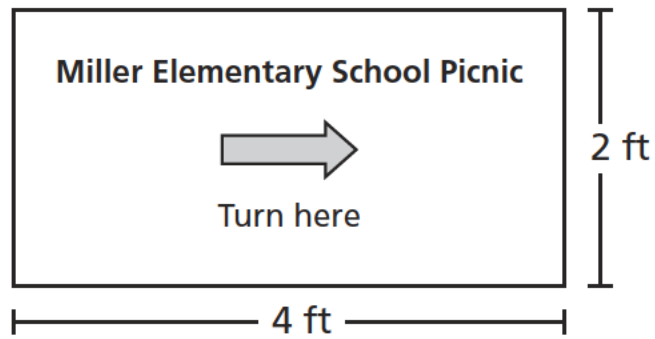
B B

C C

D D

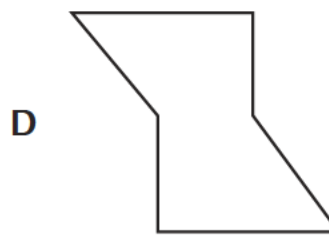
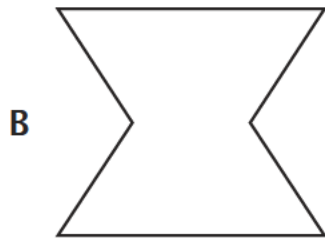
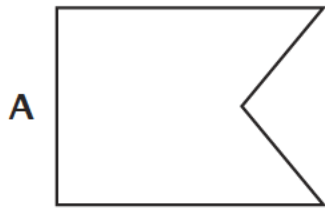
GO ON

- 28 A rectangular sign is shown.



What is the perimeter, in feet, of the sign?

- A 6
B 8
C 12
D 16
- 29 Which figure has exactly one line of symmetry?



- 30 If a total of 762 students at a citywide competition are divided into 6 equal-sized teams, how many students are on each team?
- A 110
 - B 120
 - C 127
 - D 137
- 31 At a neighborhood park, there are 11 spaces for bicycles on a rack by the basketball court. The bicycle rack by the playground has 3 times as many spaces for bicycles as the one by the basketball court. Which equation could be used to find the total number of bicycle spaces on the rack by the playground?
- A $3 \times 11 = ?$
 - B $11 + 3 = ?$
 - C $11 \div ? = 3$
 - D $? + 3 = 11$
- 32 Melina walked $\frac{9}{12}$ mile each day for 5 days. What was the total distance, in miles, she walked in the 5 days?
- A $\frac{9}{60}$
 - B $\frac{45}{60}$
 - C $\frac{14}{12}$
 - D $\frac{45}{12}$

GO ON

35

Rowan has 3 pieces of yarn, as described below.

- a red piece of yarn that is $\frac{3}{4}$ foot long
- a yellow piece of yarn that is $\frac{6}{8}$ foot long
- a blue piece of yarn that is $\frac{4}{12}$ foot long

Which number sentence correctly compares the lengths of 2 of these pieces of yarn?

A $\frac{3}{4} < \frac{6}{8}$

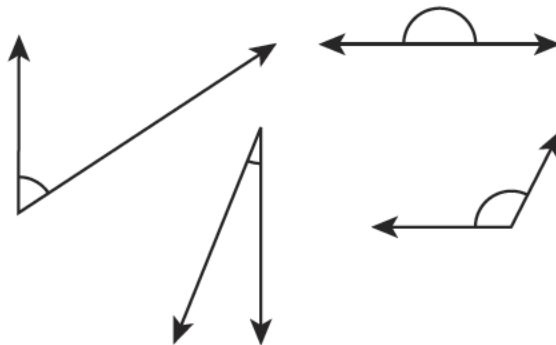
B $\frac{4}{12} < \frac{3}{4}$

C $\frac{3}{4} > \frac{6}{8}$

D $\frac{4}{12} > \frac{6}{8}$

GO ON

- 36 Four angles are shown below.



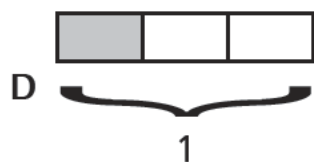
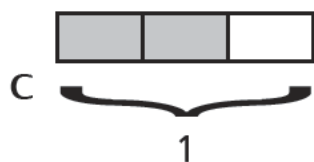
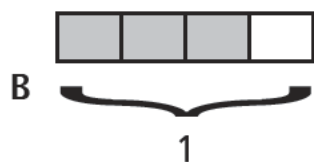
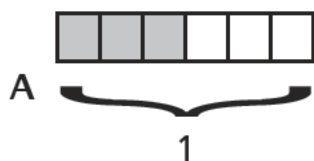
How many of these angles are acute?

- A 1
B 2
C 3
D 4
- 37 Each time Rami turned the dial on a machine, the dial moved 1 degree. Rami turned the dial 10 times. What is the total number of degrees the dial moved?
- A 10
B 90
C 110
D 360

40 Which method can be used to solve 11×13 ?

- A Multiply 11×10 and 10×3 , then add the two products.
- B Multiply 11×10 and 11×3 , then add the two products.
- C Multiply 11×100 and 10×3 , then add the two products.
- D Multiply 11×100 and 11×3 , then add the two products.

41 Which model is shaded to represent a fraction that is equivalent to $\frac{9}{12}$?



44 What is $123 \div 8$?

- A 15 remainder 7
- B 15 remainder 3
- C 16 remainder 5
- D 16 remainder 1

45 Becky and James have a total of $4\frac{2}{8}$ feet of yarn. Becky has $1\frac{5}{8}$ feet of yarn.
How many feet of yarn does James have?

- A $2\frac{5}{8}$
- B $2\frac{7}{8}$
- C $3\frac{3}{8}$
- D $3\frac{5}{8}$

STOP

46

A loaf of bread is cut into slices of equal size. Some of the loaf is used in a recipe and $\frac{2}{12}$ of the loaf is used to make a sandwich. The remaining $\frac{7}{12}$ of the loaf is put into the refrigerator.

Write and solve an equation to find the fraction of the loaf of bread that is used in the recipe.

Show your work.

Fraction _____

GO ON

47

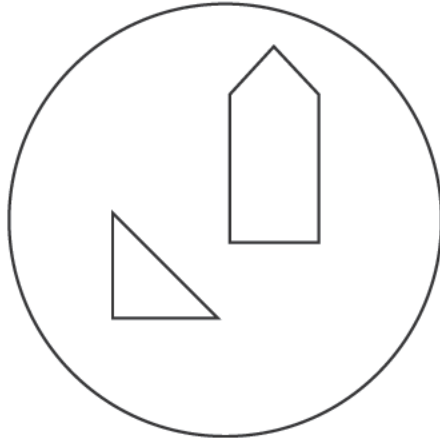
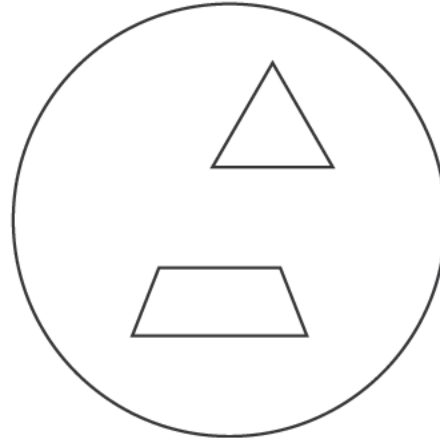
During a weekend sale, a store sold 85 DVDs for \$19 each. What is the total amount of money, rounded to the nearest hundred, the store made by selling DVDs?

Show your work.

Answer \$ _____

GO ON

Jodi sorted shapes into two groups based on the types of angles they appear to have, as shown below.

Group A**Group B**

What do both shapes in Group A have in common? What do both shapes in Group B have in common?

Group A _____

Group B _____

Into which group does the shape below belong?



Group _____

GO ON

49

For a math project, Roxana made the table below to show the amount of time she spent doing different activities last weekend.

WEEKEND ACTIVITIES

Activity	Time Spent (hours)
Dance Class	$\frac{6}{5}$
Reading	$\frac{4}{12}$
Soccer	$\frac{7}{8}$
Swimming	$\frac{2}{6}$

On which activities did Roxana spend more than $\frac{1}{2}$ an hour? Explain how you know which activities took more than $\frac{1}{2}$ an hour.

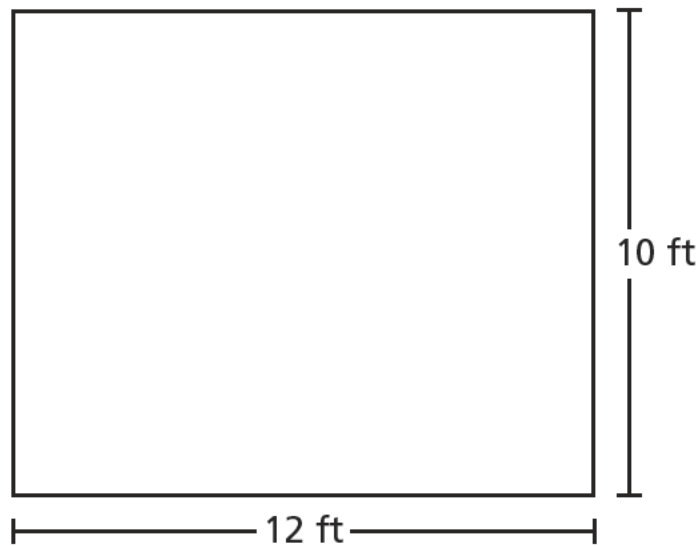
Show your work.

Answer

GO ON

50

The figure below represents a play space that Logan fenced in for his dog.



Logan is getting a second dog and wants to increase the length of the play space by 3 feet and the width by 3 feet. What will be the difference in the area, in square feet, between the original play space and the new play space?

Show your work.

Answer _____ square feet

GO ON

51

Aisha and Dave play the same computer game and compare their highest score each morning. Today, Aisha said that she scored thirty thousand twenty-five points, and Dave said that he scored thirty thousand two hundred five points.

Write a number sentence using one of the symbols, $>$, $<$, or $=$, to correctly compare Aisha's number of points to Dave's number of points.

Answer _____

52

Sam was in a contest at the library to read as many books as he could in three months. At the end of the contest he earned 2 tickets for each book he read. The table below shows the number of books Sam read each month.

BOOKS SAM READ

Month	Number of Books
January	15
February	13
March	16

Sam was able to buy 1 prize for every 5 tickets he had earned. Sam bought as many prizes as he could with his tickets. How many prizes was Sam able to buy?

Show your work and explain your answer.

Answer _____ prizes

GO ON

53

A tree farmer planted 3 types of trees on 22 acres of land. He planted 48 trees per acre. What was the total number of trees the farmer planted?

Show your work.

Answer _____ trees

The farmer planted an equal number of each type of tree. Oak trees were one of the 3 types of trees planted. What was the total number of oak trees planted?

Answer _____ oak trees

GO ON

The table below shows the sizes and weights of containers of potato salad sold at a store.

POTATO SALAD

Size	Weight (pounds)
Small	$\frac{2}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{6}{8}$
Extra Large	$\frac{9}{8}$

Kim purchased 6 small containers of potato salad and Seth purchased 2 extra large containers of potato salad. What is the difference in the weights, in pounds, of Kim's and Seth's purchases?

Show your work.

Answer _____ pounds

GO ON

55

Bill is shopping for folders, notebooks, and pencils for the first day of school. A notebook costs 4 times as much as a folder. A notebook costs 2 times as much as a set of pencils. Each folder costs \$2. Determine the total cost for 1 folder, 1 notebook, and 1 set of pencils.

Show your work.

Answer \$ _____

STOP

Grade 4
2017 Common Core
Mathematics Test
Book 3
May 2–4, 2017

THE STATE EDUCATION DEPARTMENT
 THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234
 2017 Mathematics Tests Map to the Standards
 Released Questions on EngageNY

Grade 4

Question	Type	Key	Points	Standard	Cluster	Secondary Standard(s)	Multiple Choice Questions:	Constructed Response Questions:	
							Percentage of Students Who Answered Correctly (P-Value)	Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
Book 1									
1	Multiple Choice	D	1	CCSS.Math.Content.4.NBT.A.3	Number and Operations in Base Ten		0.73		
2	Multiple Choice	D	1	CCSS.Math.Content.4.MD.C.6	Measurement and Data		0.78		
3	Multiple Choice	A	1	CCSS.Math.Content.4.NF.B.3a	Number and Operations— Fractions		0.74		
4	Multiple Choice	A	1	CCSS.Math.Content.4.G.A.1	Geometry		0.59		
5	Multiple Choice	D	1	CCSS.Math.Content.4.NBT.B.5	Number and Operations in Base Ten		0.74		
6	Multiple Choice	A	1	CCSS.Math.Content.4.NF.A.1	Number and Operations— Fractions		0.59		
7	Multiple Choice	D	1	CCSS.Math.Content.4.MD.C.5a	Measurement and Data		0.62		
8	Multiple Choice	B	1	CCSS.Math.Content.4.MD.B.4	Measurement and Data		0.61		
11	Multiple Choice	C	1	CCSS.Math.Content.4.MD.A.3	Measurement and Data		0.32		
12	Multiple Choice	B	1	CCSS.Math.Content.4.OA.A.3	Operations and Algebraic Thinking		0.44		
15	Multiple Choice	C	1	CCSS.Math.Content.3.G.A.1	Geometry		0.55		
16	Multiple Choice	A	1	CCSS.Math.Content.4.MD.C.7	Measurement and Data		0.71		
17	Multiple Choice	D	1	CCSS.Math.Content.4.NF.A.1	Number and Operations— Fractions		0.66		
21	Multiple Choice	B	1	CCSS.Math.Content.4.MD.C.7	Measurement and Data		0.55		
22	Multiple Choice	B	1	CCSS.Math.Content.4.NBT.B.6	Number and Operations in Base Ten		0.71		
Book 2									
23	Multiple Choice	C	1	CCSS.Math.Content.4.OA.B.4	Operations and Algebraic Thinking		0.83		

Released Questions on EngageNY

Grade 4

Question	Type	Key	Points	Standard	Cluster	Secondary Standard(s)	Multiple Choice Questions:	Constructed Response Questions:	
							Percentage of Students Who Answered Correctly (P-Value)	Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
24	Multiple Choice	C	1	CCSS.Math.Content.4.MD.B.4	Measurement and Data		0.81		
25	Multiple Choice	B	1	CCSS.Math.Content.4.NBT.B.5	Number and Operations in Base Ten		0.88		
26	Multiple Choice	D	1	CCSS.Math.Content.4.OA.A.1	Operations and Algebraic Thinking		0.93		
27	Multiple Choice	B	1	CCSS.Math.Content.4.NF.A.1	Number and Operations— Fractions		0.36		
28	Multiple Choice	C	1	CCSS.Math.Content.3.MD.D.8	Measurement and Data		0.76		
29	Multiple Choice	A	1	CCSS.Math.Content.4.G.A.3	Geometry		0.66		
30	Multiple Choice	C	1	CCSS.Math.Content.4.NBT.B.6	Number and Operations in Base Ten		0.77		
31	Multiple Choice	A	1	CCSS.Math.Content.4.OA.A.2	Operations and Algebraic Thinking		0.92		
32	Multiple Choice	D	1	CCSS.Math.Content.4.NF.B.4c	Number and Operations— Fractions		0.70		
35	Multiple Choice	B	1	CCSS.Math.Content.4.NF.A.2	Number and Operations— Fractions		0.59		
36	Multiple Choice	B	1	CCSS.Math.Content.4.G.A.1	Geometry		0.70		
37	Multiple Choice	A	1	CCSS.Math.Content.4.MD.C.5b	Measurement and Data		0.88		
40	Multiple Choice	B	1	CCSS.Math.Content.4.NBT.B.5	Number and Operations in Base Ten		0.66		
41	Multiple Choice	B	1	CCSS.Math.Content.4.NF.A.1	Number and Operations— Fractions		0.61		
44	Multiple Choice	B	1	CCSS.Math.Content.4.NBT.B.6	Number and Operations in Base Ten		0.76		
45	Multiple Choice	A	1	CCSS.Math.Content.4.NF.B.3c	Number and Operations— Fractions		0.41		

Released Questions on EngageNY

Grade 4									
Question	Type	Key	Points	Standard	Cluster	Secondary Standard(s)	Multiple Choice Questions:	Constructed Response Questions:	
							Percentage of Students Who Answered Correctly (P-Value)	Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
Book 3									
46	Constructed Response		2	CCSS.Math.Content.4.NF.B.3d	Number and Operations— Fractions			0.86	0.43
47	Constructed Response		2	CCSS.Math.Content.4.NBT.B.5	Number and Operations in Base Ten			1.04	0.52
48	Constructed Response		2	CCSS.Math.Content.4.G.A.1	Geometry			1.11	0.55
49	Constructed Response		2	CCSS.Math.Content.4.NF.A.2	Number and Operations— Fractions			0.97	0.48
50	Constructed Response		2	CCSS.Math.Content.4.MD.A.3	Measurement and Data			0.65	0.32
51	Constructed Response		2	CCSS.Math.Content.4.NBT.A.2	Number and Operations in Base Ten			1.56	0.78
52	Constructed Response		3	CCSS.Math.Content.4.OA.A.3	Operations and Algebraic Thinking			1.59	0.53
53	Constructed Response		3	CCSS.Math.Content.4.NBT.B.5	Number and Operations in Base Ten			1.38	0.46
54	Constructed Response		3	CCSS.Math.Content.4.NF.B.4b	Number and Operations— Fractions	CCSS.Math.Content.4.NF.B.4c		1.56	0.52
55	Constructed Response		3	CCSS.Math.Content.4.OA.A.2	Operations and Algebraic Thinking			1.74	0.58

*This item map is intended to identify the primary analytic skills necessary to successfully answer each question. However, some questions measure proficiencies described in multiple standards, including a balanced combination of procedural and conceptual understanding.