Math GOALS 2 Sample Items

The CASAS Math GOALS 2 series is an assessment of mathematics for Adult Basic Education (ABE) and Adult Secondary Education (ASE). This document provides sample test items organized by NRS level as examples of the type of test items on the operational Math GOALS 2 test forms. With each sample item are item level alignments to Content Areas of the tests (refer to the Math GOALS 2 Content Standard Blueprints for more information on test content coverage), the College and Career Reading Standards (CCRS) for Adult Education, the CASAS Competencies, and Task Areas. Below is a list of Task Areas and abbreviations that refer to the CCRS. These abbreviations are drawn from the CCRS.

Content Area and CCRS Content Descriptions	CCRS Abbreviation
Number Sense and Operations	
Number and Operations: Base Ten	NBT
Number and Operations: Fractions	NOF
Number System	NS
Ratios and Proportional Relationships	RPR
Number and Quantity: The Real Number System	RN
Algebraic Thinking	
Operations and Algebraic Thinking	OA
Expressions and Equations	EE
Functions	F
Algebra: Arithmetic and Polynomials and Rational Exponents	A.APR
Algebra: Reasoning with Equations and Inequalities	A.REI
Algebra: Creating Equations	A.CED
Functions: Interpreting Functions	F.IF
Functions: Linear, Quadratic, and Exponential Models	F.LE
Geometry and Measurement	
Geometry	G
Measurement and Data	MD
Geometry: Congruence	G.CO
Geometry: Similarity, Right Triangles, and Trigonometry	G.SRT
Geometry: Geometric Measurement and Dimension	G.GMD
Geometry: Modeling with Geometry	G.MG
Data Analysis, Statistics, and Probability	
Measurement and Data	MD
Statistics and Probability	SP
Statistics and Probability: Interpreting Categorical and Quantitative Data	S.ID

Task Areas	
0 – General	3 – Texts, emails, articles, and narratives
1 – Forms	4 – Signs, ads, and labels
2 – Charts, tables, and graphs	5 – Diagrams and measurement scales

NRS Educational Functioning Level

Level 1

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#1	**Number Sense and Operations**	NBT	4.7	2	B

Lunch Orders	
Pizza	15
Sandwiches	5
Salads	10

How many total lunch orders are there?

A. 25
B. 30
C. 35
D. 75

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#2	**Algebraic Thinking**	OA	1.2	0	A

Josie had 8 cookies. She ate some cookies after dinner. Now she has 5 cookies left.

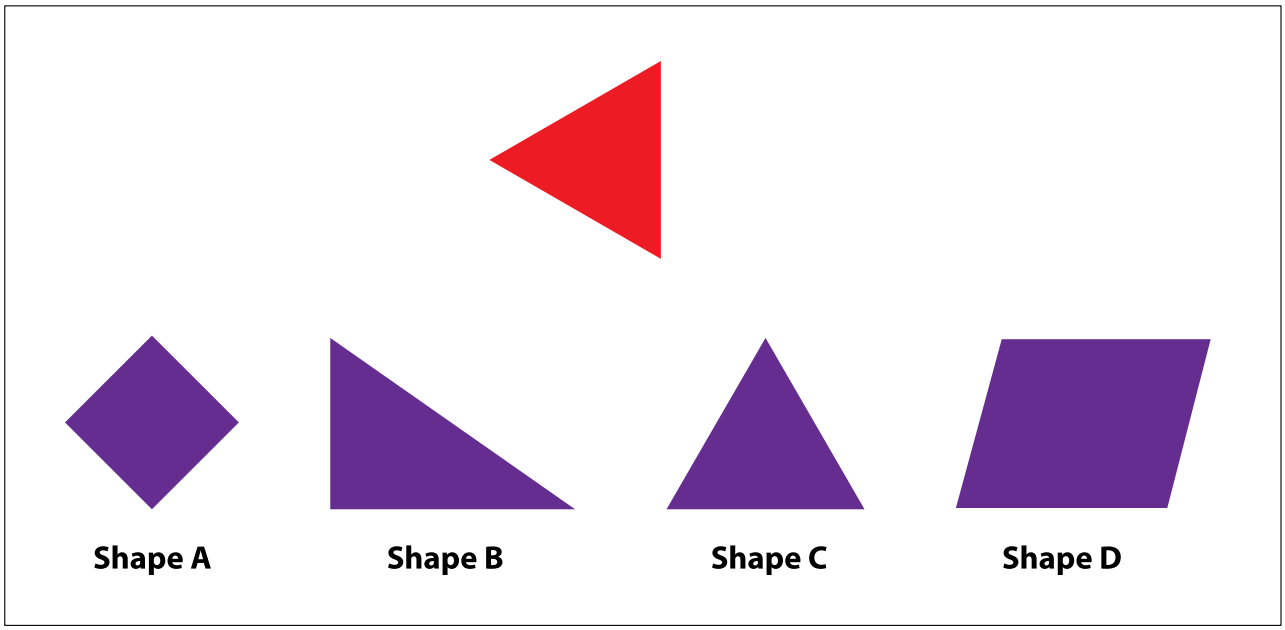
Before Dinner

After Dinner

How many cookies did Josie eat?

A. 3
B. 4
C. 5
D. 6

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#3	**Geometry and Measurement**	G	6.0	0	C



Which shape has the same shape and size as the shape at the top?

A. A
B. B
C. C
D. D

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#4	**Data Analysis, Statistics, and Probability**	MD	4.7	2	D

Harrison Elementary 2nd Grade Classrooms

Teacher	Number of Students
Mr. Winston	19
Ms. Lee	17
Mr. Chan	22
Mrs. O'Connor	23

Which classroom has the *most* students?

A. Mr. Winston's class
B. Ms. Lee's class
C. Mr. Chan's class
D. Mrs. O'Connor's class

NRS Educational Functioning Level

Level 2

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#5	**Number Sense and Operations**	NBT	4.7	3	B

A preschool teacher wants to put the same number of toys in each toy box. There are 20 toys and 4 toy boxes.

How many toys should the teacher put in each toy box?

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

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#6	**Algebraic Thinking**	OA	2.6	5	D

Nicole is planting a vegetable garden. The garden will have 8 equal parts. In each part, Nicole will plant 1 tomato plant and 4 onion plants.

How many total plants will Nicole have in her garden?

A. 5
B. 8
C. 32
D. 40

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#7	**Geometry and Measurement**	MD	1.1	5	B

Rainbow Daycare serves 64 ounces of juice each day.

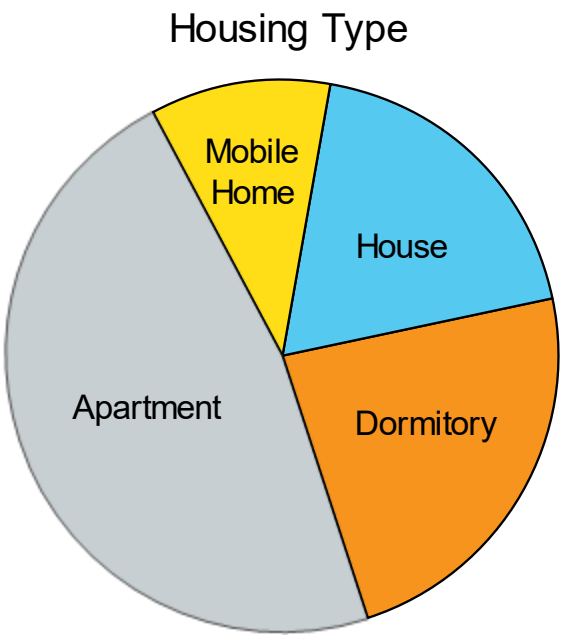
1 gallon = 128 ounces

How many days will 1 gallon of juice last at the daycare?

A. 1 day
B. 2 days
C. 3 days
D. 4 days

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#8	**Data Analysis, Statistics, and Probability**	MD	1.4	2	D

A college asked students where they live



Where do the *fewest* students live?

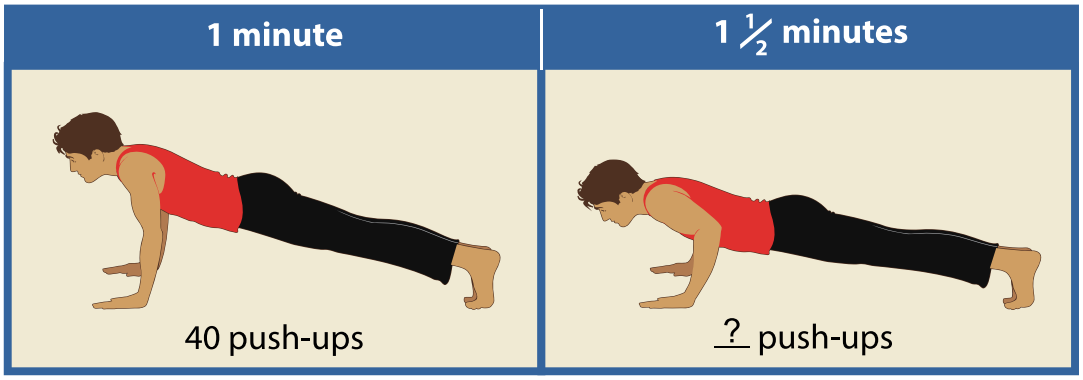
A. House
B. Apartment
C. Dormitory
D. Mobile Home

NRS Educational Functioning Level

Level 3

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#9	**Number Sense and Operations**	NOF	3.5	5	A

Marco likes to exercise. He does push-ups every day. He can do 40 push-ups in a minute.



If Marco keeps the same rate, how many push-ups could he do in 1 ½ minutes?

A. 60
B. 70
C. 80
D. 90

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#10	**Algebraic Thinking**	EE	4.7	3	A

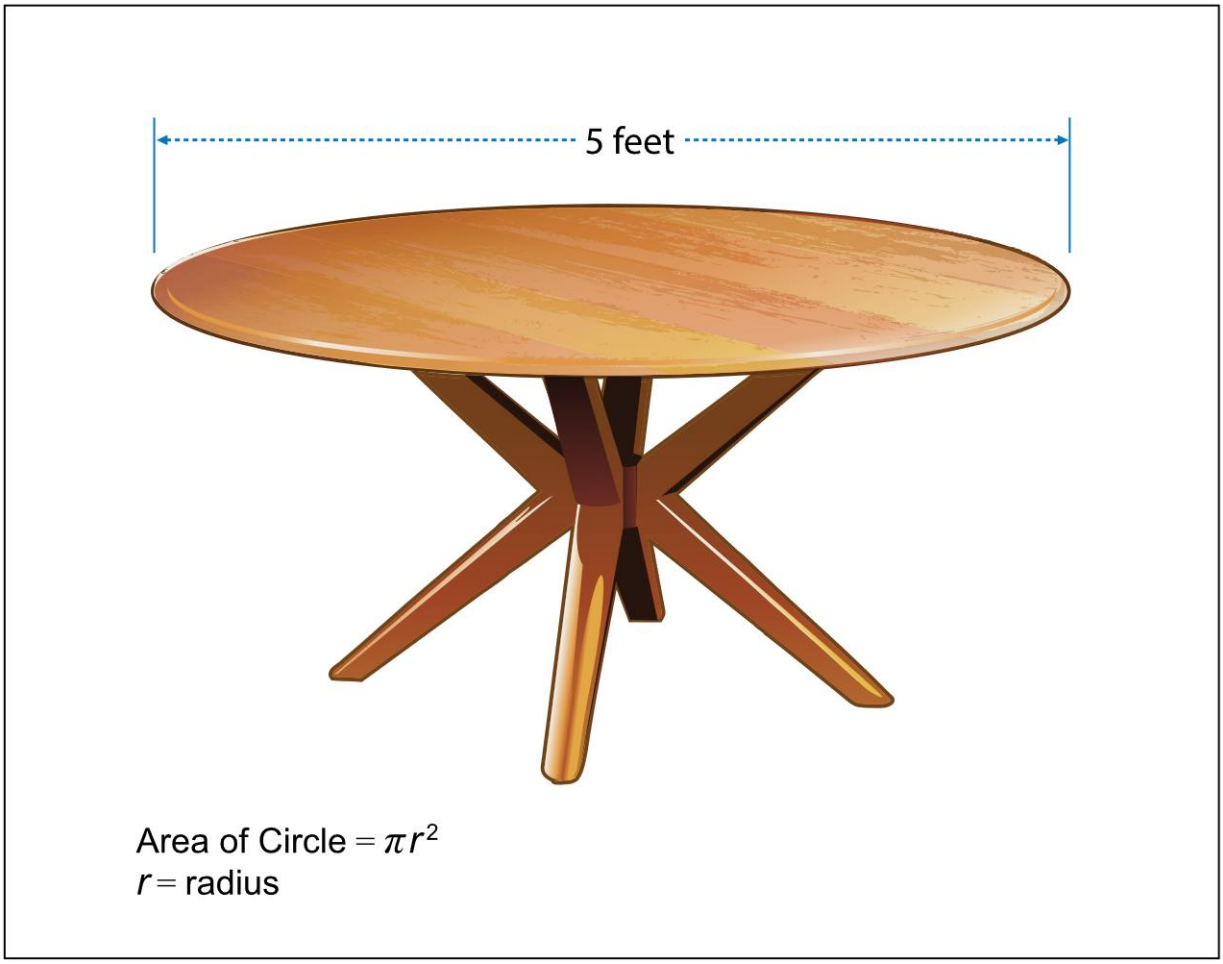
At Coney's Ice Cream shop, 3 times as many customers bought ice cream today compared to yesterday.

y = number of customers yesterday

Which expression represents how many customers bought ice cream today?

A. $3y$
B. $y/3$
C. $3 + y$
D. $y - 3$

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#11	**Geometry and Measurement**	G	1.1	5	B



What is the approximate area of the table surface?

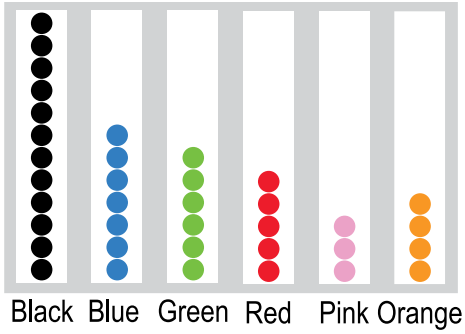
A. 16 square feet
B. 20 square feet
C. 25 square feet
D. 79 square feet

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#12	**Data Analysis, Statistics, and Probability**	SP	2.8	2	A

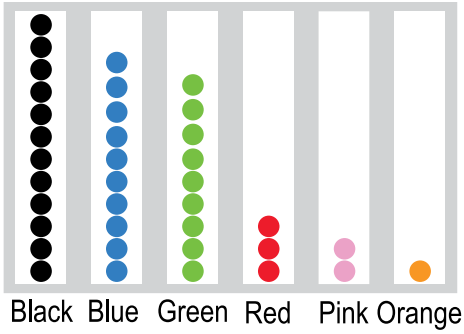
Thuy is doing a school project. She looks at the color of the backpacks at her school and puts the information in a table.

Color	Number of Backpacks
Black	12
Blue	7
Green	6
Red	5
Pink	3
Orange	4

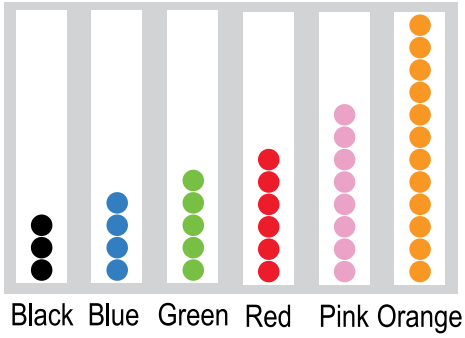
A



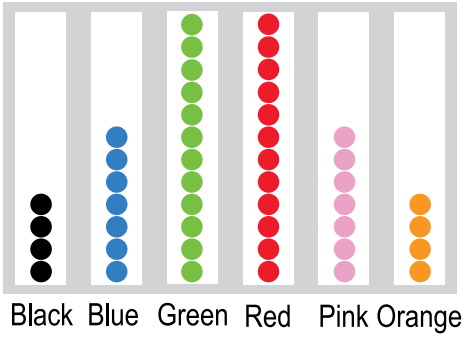
B



C



D



Which dot plot shows the number of backpacks Thuy recorded?

A. A
B. B
C. C
D. D

NRS Educational Functioning Level

Level 4

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#13	**Number Sense and Operations**	NS	1.2	5	B

What percent is the sale price discount?

A. 40% off
B. 60% off
C. 66% off
D. 75% off

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#14	**Algebraic Thinking**	EE	2.2	2	C

Jeremy needs a taxi. His trip is 13 miles.

Taxi Company	Initial Fee	Per-mile Cost
Company A	$5	$3.50
Company B	$8	$2.50
Company C	$3	$5.50
Company D	$10	$4.50

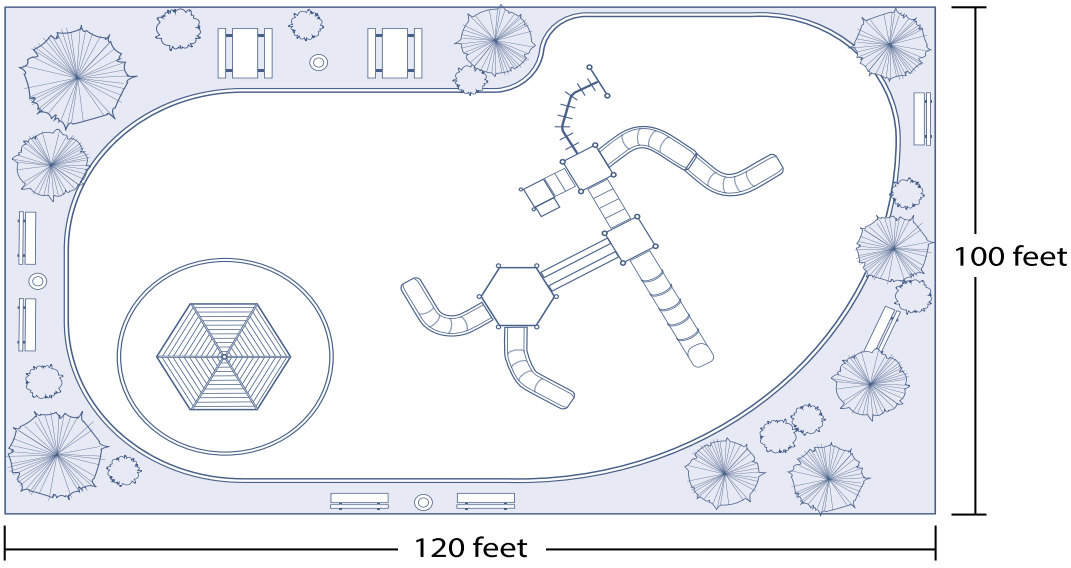
Which taxi company is the *most* expensive for Jeremy's trip?

A. Company A
B. Company B
C. Company C
D. Company D

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#15	**Geometry and Measurement**	G	1.1	5	B

A new playground is being built. The playground will be a rectangle with dimensions of 100 feet by 120 feet. The playground designer is creating a scale drawing.

The scale of the drawing of the playground will be $\frac{1}{4}$ inch (in.) for every foot.



Scale: $\frac{1}{4}$ inch = 1 foot

What will the dimensions of the playground scale drawing be?

A. 10 in. × 12 in.
B. 25 in. × 30 in.
C. 100 in. × 120 in.
D. 400 in. × 480 in.

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#16	**Data Analysis, Statistics, and Probability**	SP	1.2	2	C

Amy sells bread at her bakery.

Bread	Price
Wheat	$3.99
Sourdough	$4.99
White	$4.19
Rye	$4.19

What is the mean price of bread at the bakery?

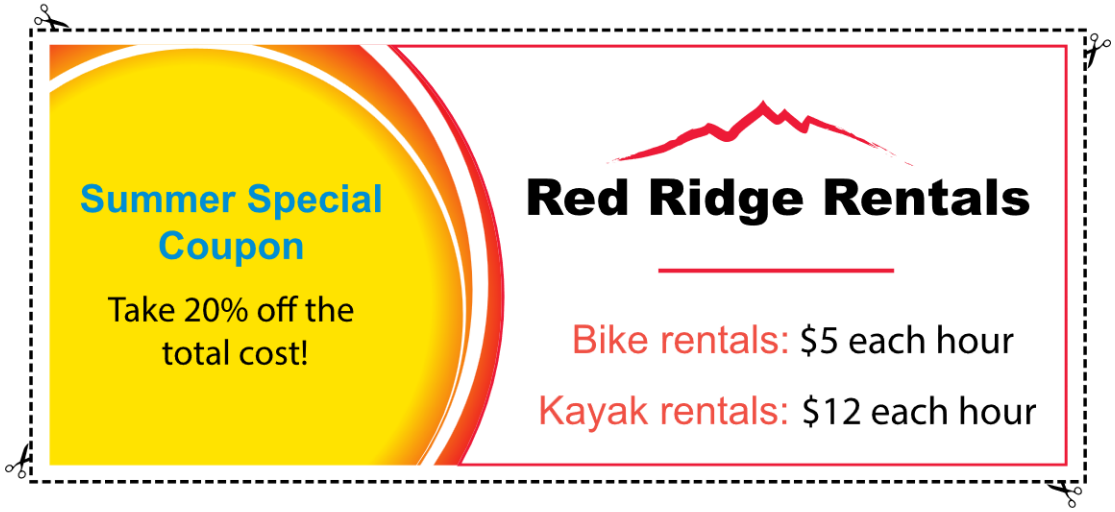
A. $4.19
B. $4.25
C. $4.34
D. $4.49

NRS Educational Functioning Level

Level 5

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#17	**Number Sense and Operations**	NS	1.3	4	B

Ricky wants to go biking and kayaking with his wife and 2 children. He will rent bikes for the entire family for 1 hour each. He will also rent kayaks for each person for 2 hours. He has a coupon for the rentals.



How much will Ricky pay in total?

A. $76.80
B. $92.80
C. $96.00
D. $116.00

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#18	**Algebraic Thinking**	EE	2.6	3	B

The community pool had an event to raise money. The price to go in the pool was $6 for adults and $2 for students. 220 people went in the pool. The event raised $720.

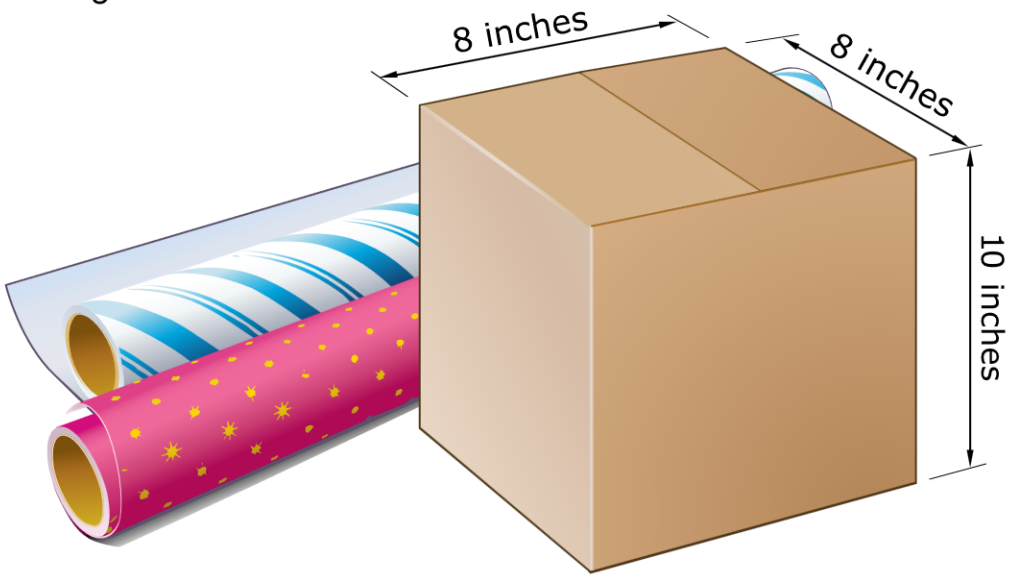
How many adults went in the pool?

A. 50
B. 70
C. 120
D. 150

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#19	**Geometry and Measurement**	G	1.1	5	B

Amar bought gifts for his 3 nieces and 1 nephew. He put each gift in the same size box.

Surface Area Rectangle Prism = $2(wl + hl + hw)$
w = width
l = length
h = height

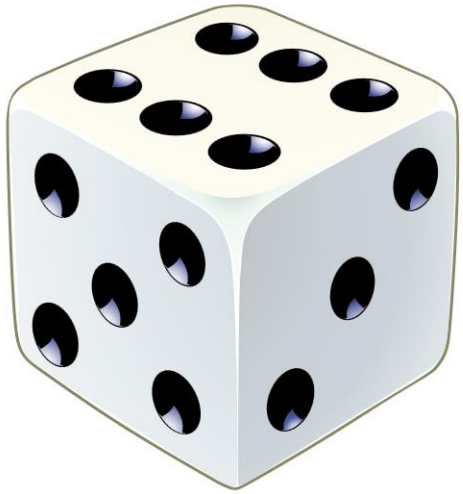


Approximately how much wrapping paper does Amar need to wrap all 4 gifts?

A. 1,536 square inches
B. 1,792 square inches
C. 2,080 square inches
D. 2,560 square inches

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#20	**Data Analysis, Statistics, and Probability**	SP	2.6	5	B

Josh rolls a six-sided die. The first time he rolls the die, he gets a 6.



What is the approximate probability Josh will get a 5 or higher on his second roll?

A. $^{1}/_{6}$

B. $^{1}/_{3}$

C. $^{2}/_{3}$

D. $^{5}/_{6}$

NRS Educational Functioning Level

Level 6

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#21	**Number Sense and Operations**	RN	6.0	0	C

$$\sqrt{2x + 6} - 4 = 0$$

What is *x* in this equation?

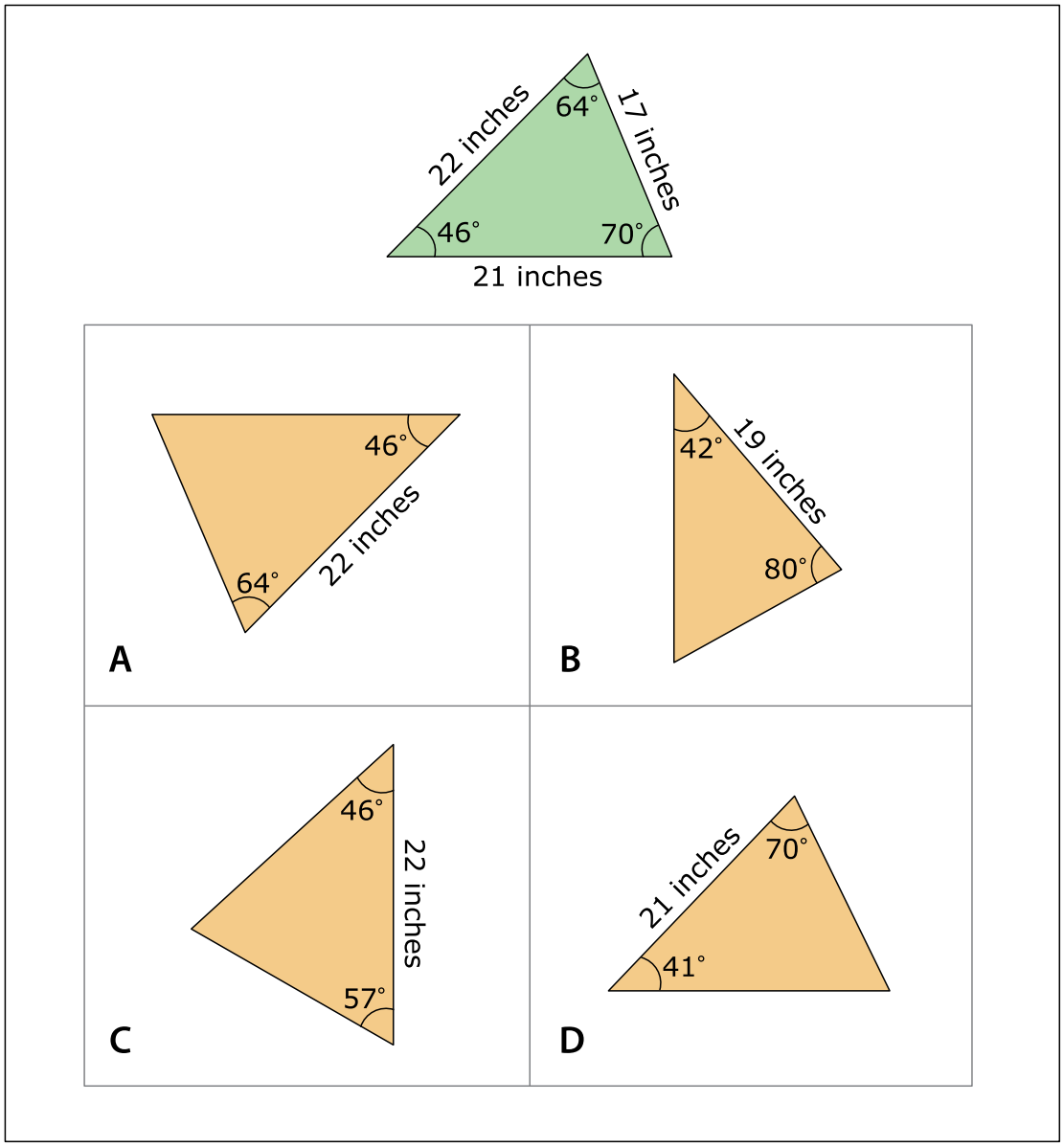
A. –11
B. –1
C. 5
D. 6

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#22	**Algebraic Thinking**	A.APR	6.0	0	C

$$(2x^3 + x^2 + 4x - 6) + (2x^2 + 3x + 3) =$$

A. $4x^5 + x^2 + 12x - 18$
B. $2x^3 + 2x^2 + 7x + 9$
C. $2x^3 + 3x^2 + 7x - 3$
D. $x^3 + 6x^2 + x - 3$

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#23	**Geometry and Measurement**	G.SRT	6.0	0	A

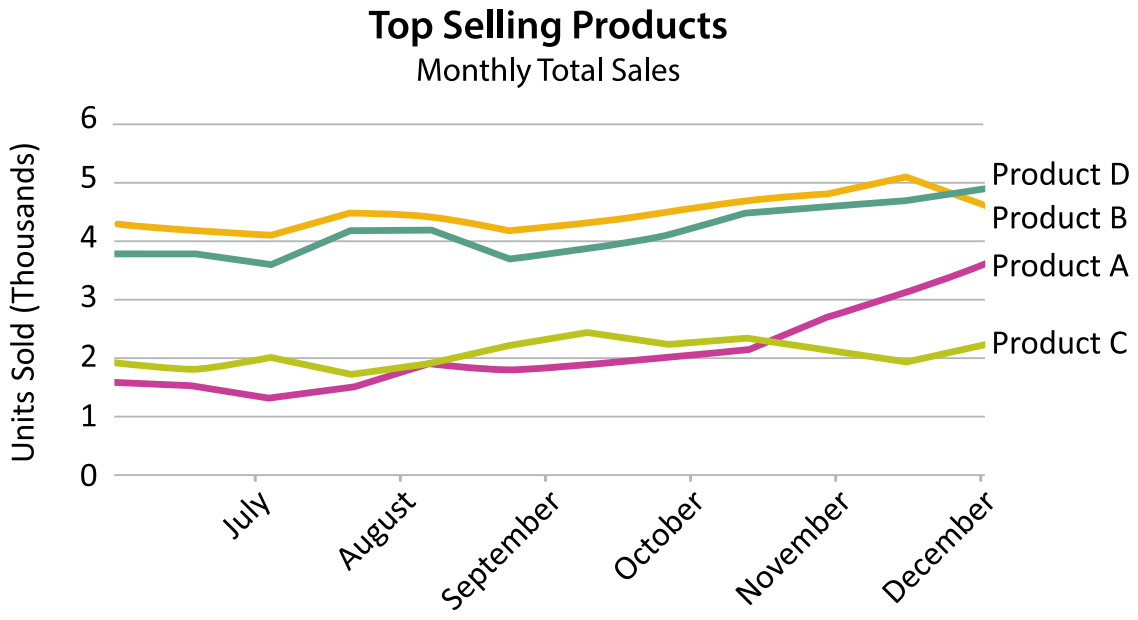


Which triangle is congruent to the triangle at the top?

A. A
B. B
C. C
D. D

Item	Content Area	CCR Standard	CASAS Competency	Task Area	Key
#24	**Data Analysis, Statistics, and Probability**	S.ID	4.7	2	A

A company tracks monthly sales of its products. The 4 most popular products are shown in the graph.



Based on the current trends, which product will *most likely* have the biggest growth in sales next month?

A. Product A
B. Product B
C. Product C
D. Product D