# 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 |



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# NRS Educational Functioning Level

# Level 1



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| 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


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| 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



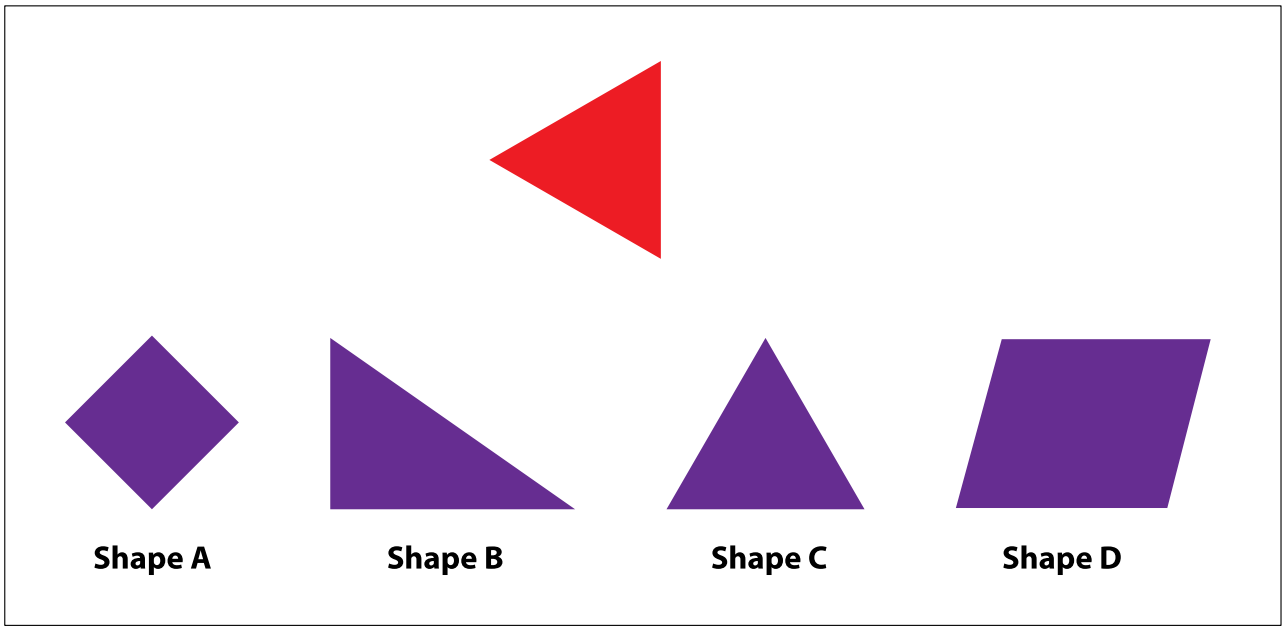
How many cookies did Josie eat?

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



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| 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



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| 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


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# NRS Educational Functioning Level

# Level 2



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| 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


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| 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



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| 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



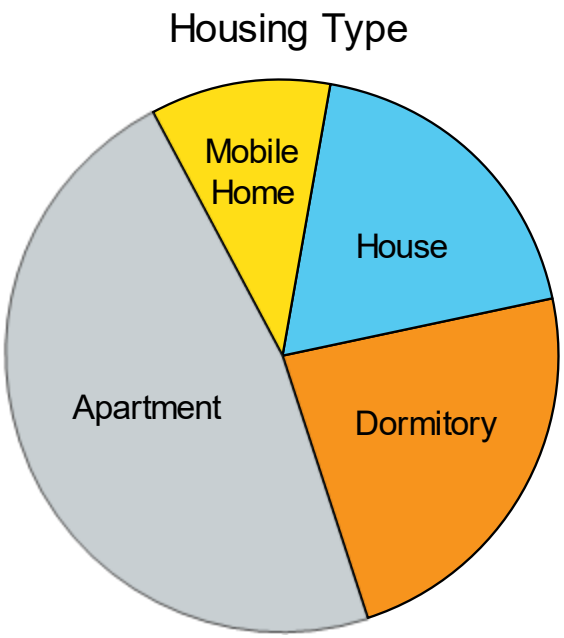

How many days will 1 gallon of juice last at the daycare?

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


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| 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



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# NRS Educational Functioning Level

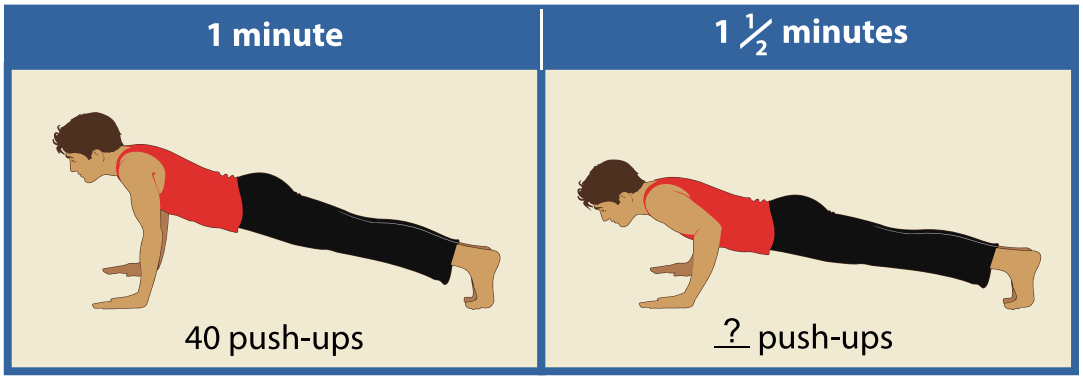
# Level 3



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| 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


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| 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.

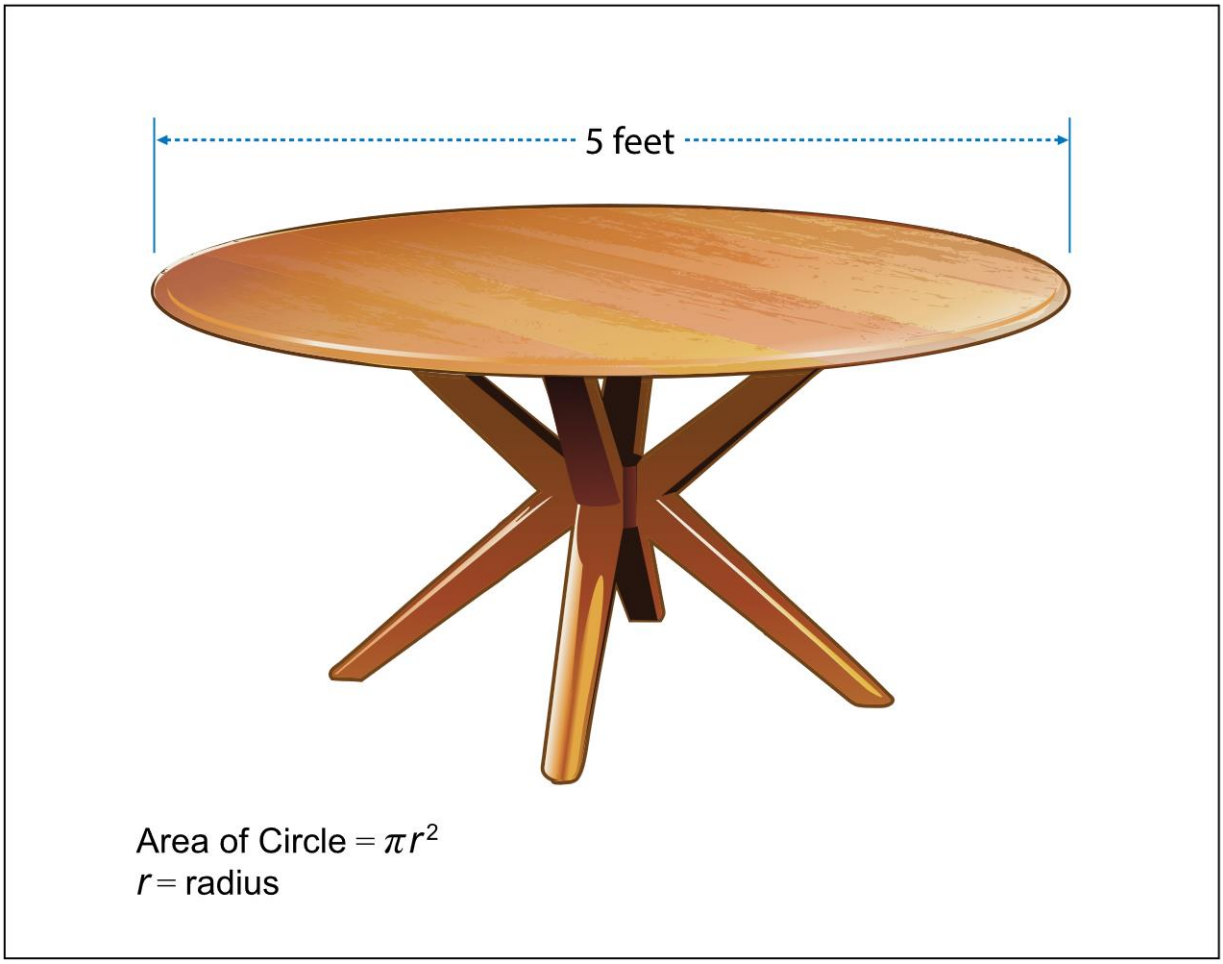
$y$ = number of customers yesterday

Which expression represents how many customers bought ice cream today?

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


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| 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

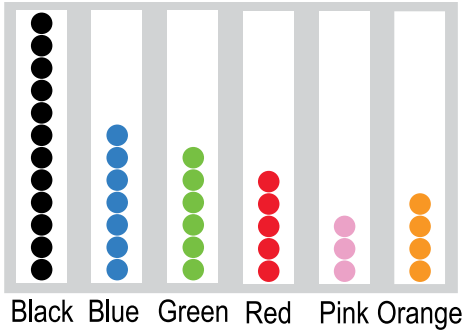

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| Item | Content Area | CCR Standard | CASAS Competency | Task Area | Key |
|---|---|---|---|---|---|
| #12 | **Data Analysis, Statistics, and Probability** | SP | 2.8 | 2 | A |

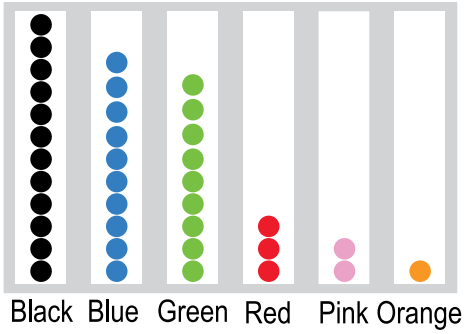
Thuy is doing a school project. She looks at the color of the backpacks at her school and puts the information in a table.

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

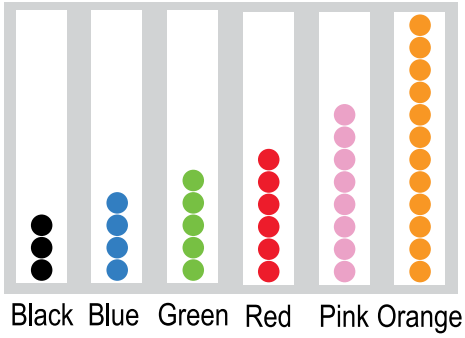
**A**



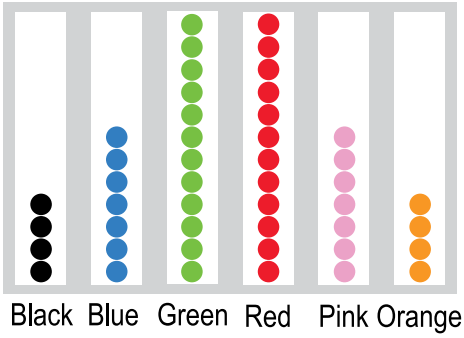

**B**




**C**




**D**




Which dot plot shows the number of backpacks Thuy recorded?

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



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# NRS Educational Functioning Level

# Level 4



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| 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


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| 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?

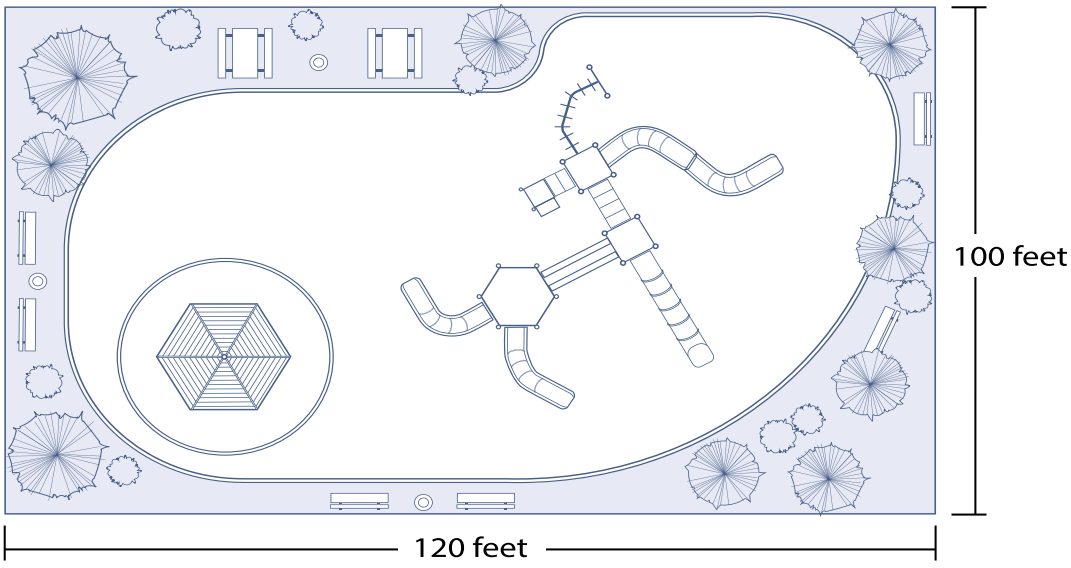
A. Company A
B. Company B
C. Company C
D. Company D


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| 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.



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| 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


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# NRS Educational Functioning Level

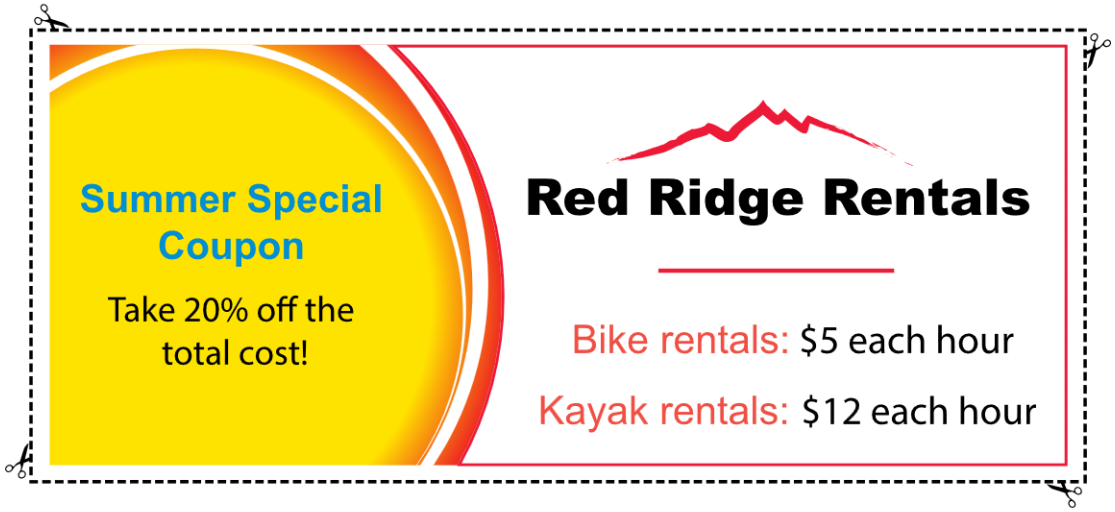
# Level 5



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| 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


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| 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?

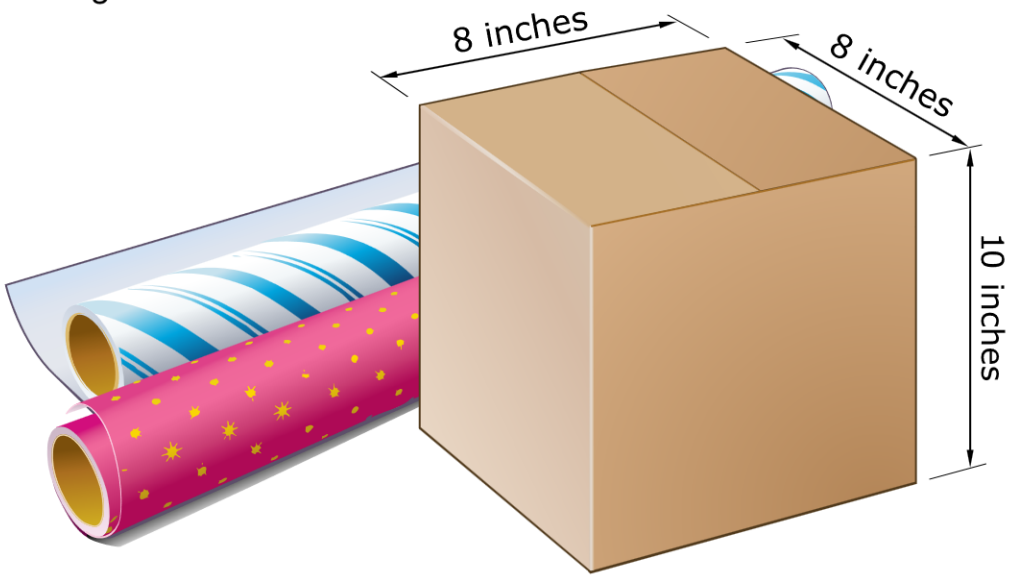
A. 50
B. 70
C. 120
D. 150


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| 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



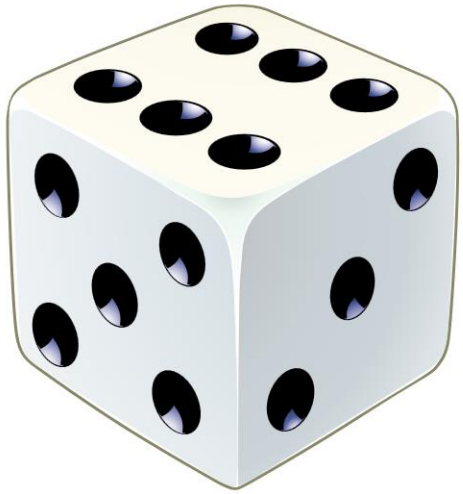

Approximately how much wrapping paper does Amar need to wrap all 4 gifts?

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


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



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# NRS Educational Functioning Level

# Level 6



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| 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


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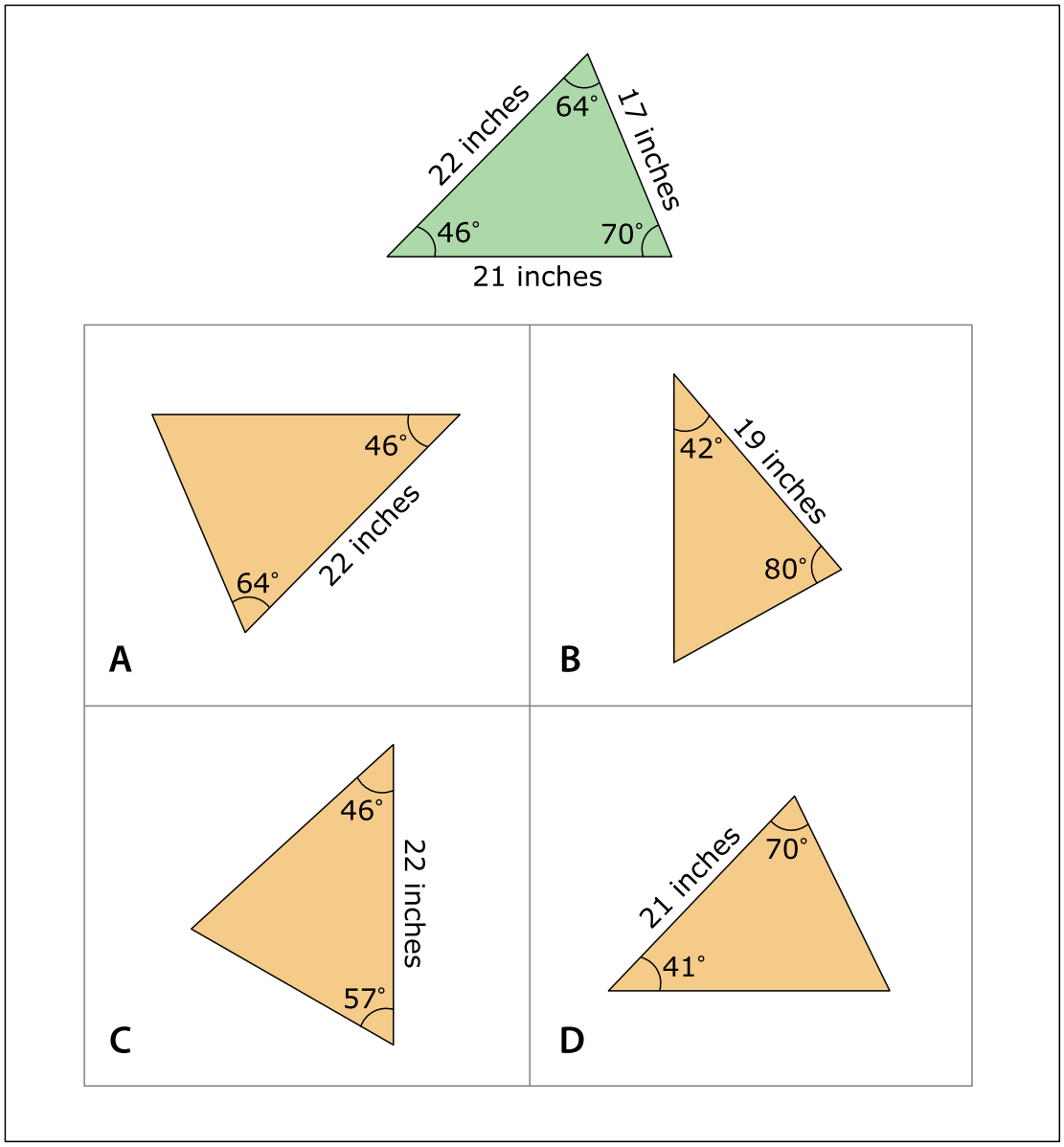
| Item | Content Area | CCR Standard | CASAS Competency | Task Area | Key |
|---|---|---|---|---|---|
| #22 | **Algebraic Thinking** | A.APR | 6.0 | 0 | C |

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

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


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| 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?

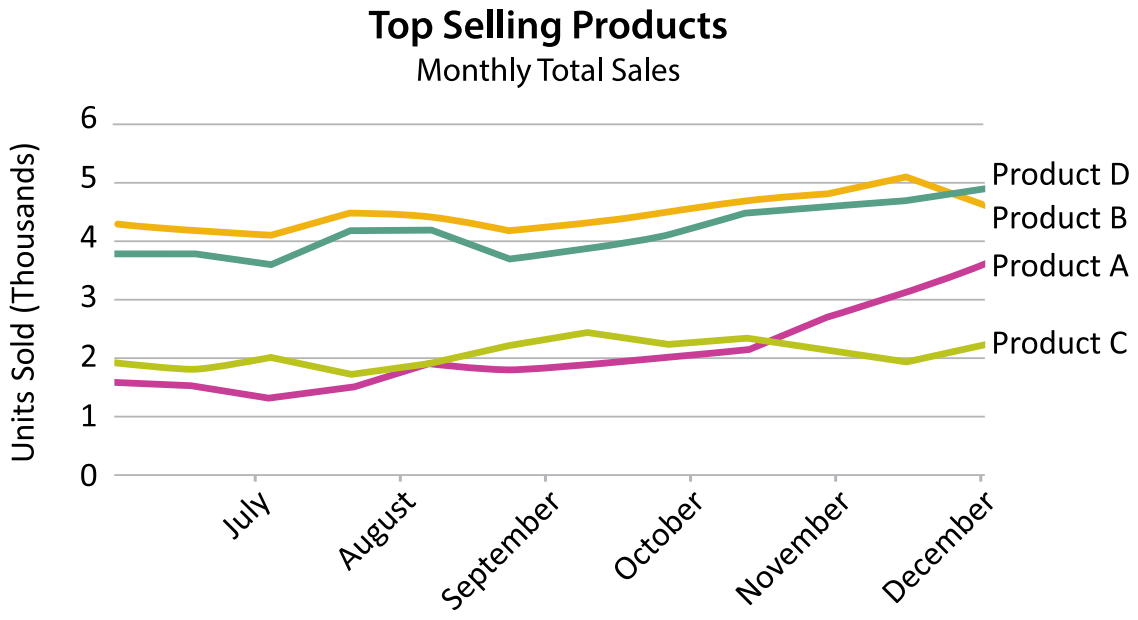
A. A
B. B
C. C
D. D



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| 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


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