California High School Exit Examination

Mathematics
Released Test Questions
2002

Standards and Assessment Division
California Department of Education

CAHSEE

California High School Exit Examination

Mathematics Released Test Questions

Introduction

Commencing with the 2003-04 school year, every graduating senior must have passed the California High School Exit Examination (CAHSEE) in order to receive a high school diploma from a California public school. During the 2002-03 school year, students in grade 10 and those students in grade 11 who have not yet passed one or both parts of the CAHSEE must take the test. In spring 2003, all students in grade 10 will be required to take the CAHSEE for the first time. For those who do not pass, there will be multiple opportunities to retake the exam.

The State Board of Education determines both grade level and specific content to be assessed on the CAHSEE. The test blueprints, or specifications, for the CAHSEE indicate which content standards are to be tested and the number of items per standard. More detailed information is available on the CAHSEE website http://www.cde.ca.gov/statetests/cahsee.

All questions on the examination have been evaluated for their appropriateness for measuring the designated ELA and mathematics content standards. They have been reviewed and approved by committees of California educators, including teachers, administrators, and academicians. In addition to content, all items have been reviewed and approved by California educators for their adherence to the principles of fairness and have been evaluated to determine if bias exists with respect to characteristics such as gender, ethnicity, and language.

The following 60 released mathematics test questions are multiple-choice questions from the previous administrations of the CAHSEE in March and May of 2001 and 2002. They are clustered according to the six strands on the CAHSEE mathematics blueprint: Number Sense; Statistics, Data Analysis, and Probability; Algebra and Functions; Measurement and Geometry; Algebra I; and Mathematical Reasoning.

These released questions are a representative sample but do not reflect a full form of the examination. The California content standard and answer key for each item can be found at the end of the cluster of questions for each strand.

Number Sense

Students' understanding of fractions, decimals, percents, and integers—and their relationship to each other and to the other disciplines of mathematics—is an essential component of their mathematics learning. CAHSEE test questions in the Number Sense strand require students to demonstrate a foundational understanding of numbers and ways they are represented.

Students will be asked to:

- solve problems with fractions, decimals, and percents
- compare and order numbers
- demonstrate an understanding of percents, including those less than 1 and greater than 100
- use ratios and proportions
- understand and meaningfully interpret large and small numbers in scientific notation
- use specific characteristics of numbers, such as multiples, factors, and primes
- use and represent integers as the basis for the comparison of quantities

Basic to success in this CAHSEE strand is the student's understanding of the mathematical operations and the ways they are related to each other. This understanding includes:

- the meaning of arithmetic operations with fractions, decimals, and integers
- the associative and commutative properties of addition and multiplication
- the distributive property of multiplication over addition
- the understanding and use of inverse relationships of addition and subtraction, multiplication, and division
- finding square roots, squaring numbers, and using the inverse relationship between them

Students also should possess computational fluency. They should be able to select appropriate methods and tools for computing with fractions and decimals; perform mental arithmetic; use algorithms for computing with fractions, decimals, and integers; use strategies for estimation and for judging the reasonableness of results; and analyze and explain methods for solving problems with proportions.

The following released test questions address the Number Sense strand on the CAHSEE.

NUMBER SENSE

1. The radius of the earth's orbit is 150,000,000,000 meters. What is this number in scientific notation?

A 1.5×10^{-11}

B 1.5×10^{11}

C 15×10^{10}

D 150×10^{9}

M00213

2. The five members of a band are getting new outfits. Shirts cost $12 each, pants cost $29 each, and boots cost $49 a pair. What is the <u>total</u> cost of the new outfits for <u>all</u> of the members?

A $90

B $95

C $450

D $500

M00331

3. $\frac{11}{12} - \left(\frac{1}{3} + \frac{1}{4}\right)$

A $\frac{1}{3}$

B $\frac{3}{4}$

C $\frac{5}{6}$

D $\frac{9}{5}$

M02048

4. If Freya makes 4 of her 5 free throws in a basketball game, what is her free throw shooting percentage?

A 20%

B 40%

C 80%

D 90%

M00223

5. The cost of an afternoon movie ticket last year was $4.00. This year an afternoon movie ticket costs $5.00. What is the percent increase of the ticket from last year to this year?

A 10%

B 20%

C 25%

D 40%

M02158

6. Sally puts $200.00 in a bank account. Each year the account earns 8% simple interest. How much interest will be earned in three years?

A $16.00

B $24.00

C $48.00

D $160.00

M02119

NUMBER SENSE

7. $\frac{10^{-2}}{10^{-4}} =$

A 10^{-6}

B 10^{-2}

C 10^{2}

D 10^{8}

M02832

8. $(3^8)^2 =$

A 3^4

B 3^6

C 3^{10}

D 3^{16}

M02406

9. The square root of 150 is between

A 10 and 11.

B 11 and 12.

C 12 and 13.

D 13 and 14.

M02666

10. If $|x| = 3$, what is the value of x?

A –3 or 0

B –3 or 3

C 0 or 3

D –9 or 9

M02122

NUMBER SENSE

Item Number	Standard	Answer Key	Item Number	Standard	Answer Key
1	NS 1.1	B	6	NS 1.7	C
2	NS 1.2	C	7	NS 2.1	C
3	NS 1.2	A	8	NS 2.3	D
4	NS 1.3	C	9	NS 2.4	C
5	NS 1.6	C	10	NS 2.5	B

Statistics, Data Analysis, and Probability

To demonstrate knowledge and skills in the Statistics, Data Analysis, and Probability strand, students must understand the fundamental concepts involved in data collection, display, and analysis. Students will be asked to determine ways to collect, organize, and display relevant data to answer questions, formulate questions that can be addressed with data, select and use appropriate statistical methods to analyze data, and develop and evaluate inferences and predictions that are based on data. In addition, students are required to understand and apply the basic concepts of probability.

Specifically, the standards in the Statistics, Data Analysis, and Probability strand include the following knowledge and skills:

- finding measures of central tendency to characterize data
- interpreting and evaluating conclusions based on data
- organizing and representing possible outcomes for events and expressing theoretical probabilities
- representing probabilities as ratios, proportions, and percents
- understanding the numerical continuum of probability between impossibility (0) and certainty (1)
- recognizing the difference between independent and dependent events
- displaying data appropriately, including both one- and two-variable data sets
- understanding and computing quartiles

The following released test questions address the Statistics, Data Analysis, and Probability strand on the CAHSEE.

STATISTICS, DATA ANALYSIS, AND PROBABILITY

11. Rico's first three test scores in biology were 65, 90, and 73. What was his mean score?

A 65

B 73

C 76

D 90

M02247

12. Three-fourths of the 36 members of a club attended a meeting. Ten of those attending the meeting were female. Which one of the following questions can be answered with the information given?

A How many males are in the club?

B How many females are in the club?

C How many male members of the club attended the meeting?

D How many female members of the club did not attend the meeting?

M00261

13. To get home from work, Curtis must get on one of the three highways that leave the city. He then has a choice of four different roads that lead to his house. In the diagram below, each letter represents a highway, and each number represents a road.

Road \ Highway	A	B	C
1	A 1	B 1	C 1
2	A 2	B 2	C 2
3	A 3	B 3	C 3
4	A 4	B 4	C 4

If Curtis randomly chooses a route to travel home, what is the probability that he will travel Highway B and Road 4?

A $\frac{1}{16}$

B $\frac{1}{12}$

C $\frac{1}{4}$

D $\frac{1}{3}$

M02512

STATISTICS, DATA ANALYSIS, AND PROBABILITY

14. Mr. Gulati is holding five cards numbered 1 through 5. He has asked five students to each randomly pick a card to see who goes first in a game. Whoever picks the card numbered 5 goes first. Juanita picks first, gets the card numbered 4, and keeps the card. What is the probability that Yoko will get the card numbered 5 if she picks second?

A $\frac{1}{2}$

B $\frac{1}{3}$

C $\frac{1}{4}$

D $\frac{1}{5}$

M02145

15. A bag contained four green balls, three red balls, and two purple balls. Jason removed one purple ball from the bag and did not put the ball back in the bag. He then randomly removed another ball from the bag. What is the probability that the second ball Jason removed was purple?

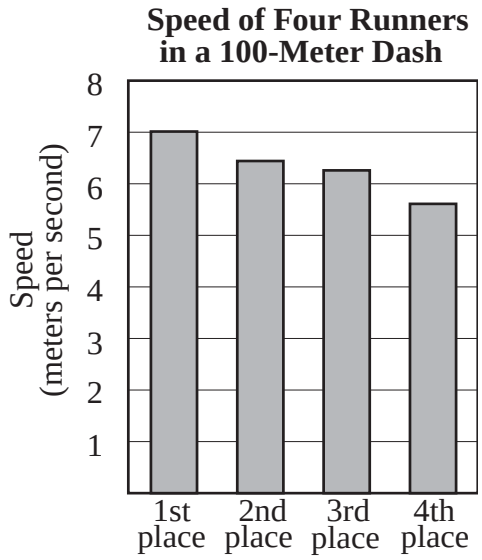
A $\frac{1}{36}$

B $\frac{1}{9}$

C $\frac{1}{8}$

D $\frac{2}{9}$

M03097



16. Based on the bar graph shown above, which of the following conclusions is true?

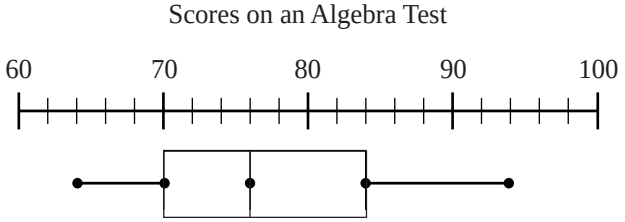
A Everyone ran faster than 6 meters per second.

B The best possible rate for the 100-meter dash is 5 meters per second.

C The first-place runner was four times as fast as the fourth-place runner.

D The second-place and third-place runners were closest in time to one another.

M00279



17. According to the box-and-whisker plot, what was the highest score a student received on the algebra test?

A 76

B 84

C 94

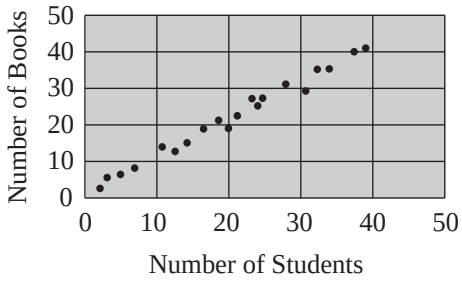
D 100

M02089

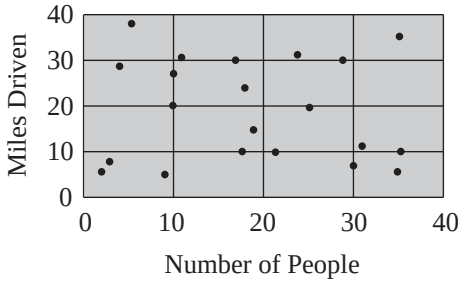
STATISTICS, DATA ANALYSIS, AND PROBABILITY

18. Which scatter plot shows a negative correlation?

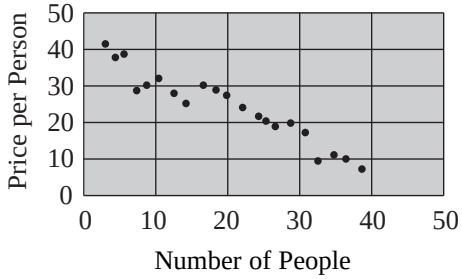
A



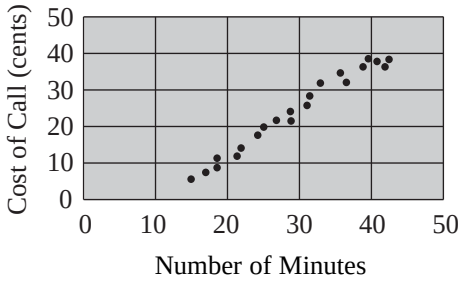
C



B



D



M02546

19. The ages of 100 trees in the Evergreen Nursery range from 1 month to 10 years. The lower quartile value is the median age of the

A 50 oldest trees.

B 50 youngest trees.

C 50 trees in the middle.

D 50 trees with the average age.

M02756

STATISTICS, DATA ANALYSIS, AND PROBABILITY

Item Number	Standard	Answer Key
11	P6 1.1	C
12	P6 2.5	C
13	P6 3.1	B
14	P6 3.5	C
15	P6 3.5	C
16	P7 1.1	D
17	P7 1.1	C
18	P7 1.2	B
19	P7 1.3	B

Algebra and Functions

The Algebra and Functions strand is most closely associated with the representation of quantitative relationships as a style of mathematical thinking for formalizing patterns, functions, and generalizations. As students increase their mathematical knowledge and skills, they work frequently with algebraic symbols, expressions with variables, and graphical representations. It is essential that students develop an understanding of several different meanings and uses of variables through multiple representations. Everyday experiences with linear functions should aid in the development of the concepts of proportionality and the ability to discriminate between linear and nonlinear functions. Students must also learn to recognize and generate equivalent expressions, solve linear equations, and effectively use formulas.

To demonstrate achievement in this strand, students will be asked to:

- work with patterns and relationships
- represent, analyze, and generalize a variety of patterns with tables, graphs, and symbolic rules
- compare different forms of representations
- identify functions
- use algebraic expressions
- solve linear equations

The use of mathematical models to represent and understand quantitative relationships is developed by modeling and solving contextualized problems. The analysis of change in various contexts involves tools such as graphs to analyze the nature of changes in quantities in linear relationships.

The following released test questions address the Algebra and Functions strand on the CAHSEE.

ALGEBRA AND FUNCTIONS

20. Which of the following inequalities represents the statement, "A number, x, decreased by 13 is less than or equal to 39"?

A $13 - x \geq 39$

B $13 - x \leq 39$

C $x - 13 \leq 39$

D $x - 13 < 39$

M03049

21. A shopkeeper has x kilograms of tea in stock. He sells 15 kilograms and then receives a new shipment weighing $2y$ kilograms. Which expression represents the weight of the tea he now has?

A $x - 15 - 2y$

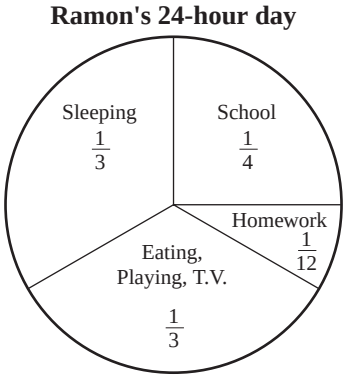
B $x + 15 + 2y$

C $x + 15 - 2y$

D $x - 15 + 2y$

M00110

22. Consider the circle graph shown below.



How many hours a day does Ramon spend in school?

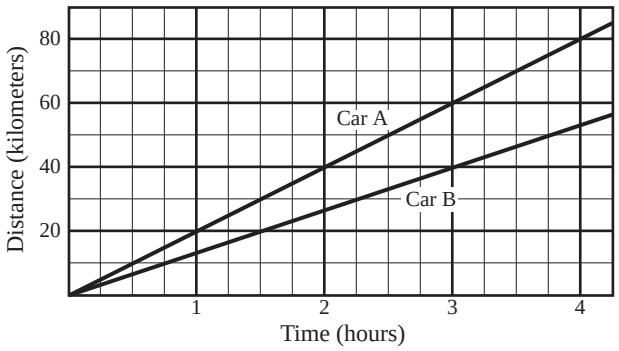
A 2 hours

B 4 hours

C 6 hours

D 8 hours

M00076



23. After three hours of travel, Car A is about how many kilometers ahead of Car B?

A 2

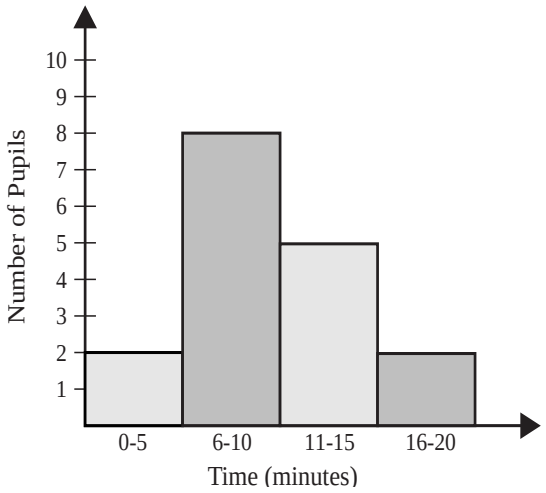
B 10

C 20

D 25

M00066

ALGEBRA AND FUNCTIONS



24. **The graph above shows the time of travel by pupils from home to school. How many pupils must travel for <u>more</u> than 10 minutes?**

A 2

B 5

C 7

D 8

M00071

25. $x^3y^3 =$

A $9xy$

B $(xy)^6$

C $3xy$

D $xxxyyy$

M02879

26. $\sqrt{4x^4} =$

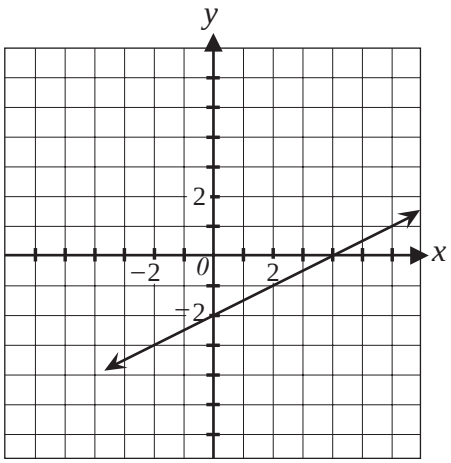
A 2

B $2x$

C $4x$

D $2x^2$

M03067



27. **What is the slope of the line shown in the graph above?**

A -2

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

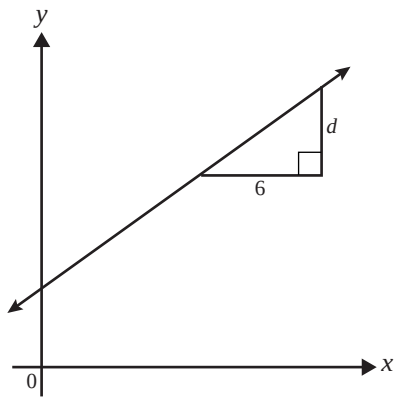
C $\frac{1}{2}$

D 2

M02556

ALGEBRA AND FUNCTIONS

28. The slope of the line shown below is $\frac{2}{3}$.



What is the value of *d*?

A 3

B 4

C 6

D 9

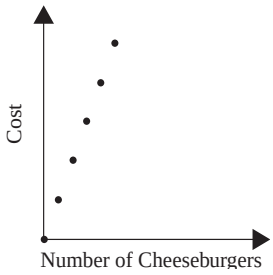
M02078

29. Best Burger sells cheeseburgers for $1.75 each. Part of a table representing the number of cheeseburgers purchased and their cost is shown below.

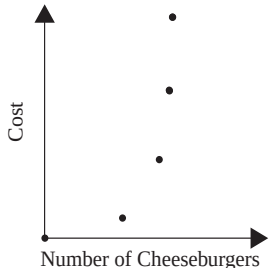
Number Purchased	Cost($)
0	0
1	1.75
2	3.50
3	5.25
4	7.00

Which of the following is a portion of the graph of the data in the table?

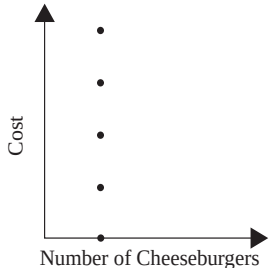
A



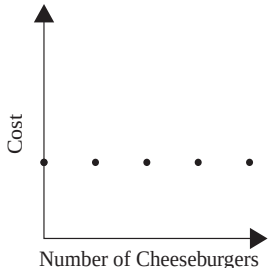
B



C



D



M02112

ALGEBRA AND FUNCTIONS

30. In the inequality $2x + \$10{,}000 \geq \$70{,}000$, x represents the salary of an employee in a school district. Which phrase most accurately describes the employee's salary?

A At least $30,000

B At most $30,000

C Less than $30,000

D More than $30,000

M02621

31. Solve for x.

$$2x - 3 = 7$$

A –5

B –2

C 2

D 5

M02771

32. The diameter of a tree trunk varies directly with the age of the tree. A 45-year-old tree has a trunk diameter of 18 inches. What is the age of a tree that has a trunk diameter of 20 inches?

A 47 years

B 50 years

C 63 years

D 90 years

M02559

33. Stephanie is reading a 456-page book. During the past 7 days she has read 168 pages. If she continues reading at the same rate, how many more days will it take her to complete the book?

A 12

B 14

C 19

D 24

M00380

ALGEBRA AND FUNCTIONS

Item Number	Standard	Answer Key	Item Number	Standard	Answer Key
20	AF 1.1	C	27	AF 3.3	C
21	AF 1.1	D	28	AF 3.3	B
22	AF 1.5	C	29	AF 3.4	A
23	AF 1.5	C	30	AF 4.1	A
24	AF 1.5	C	31	AF 4.1	D
25	AF 2.1	D	32	AF 4.2	B
26	AF 2.2	D	33	AF 4.2	A

Measurement and Geometry

As students relate their experiences from earlier classroom instruction in measurement and geometry to situations in their everyday lives, their knowledge and ability to apply this knowledge increase in depth and sophistication. To demonstrate understanding in this CAHSEE strand, students must be able to select and use appropriate units, estimate and calculate measurements for the length, area, and volume of geometric figures, understand scaling in scale drawings and how changes in linear dimension affect area and volume, and solve problems involving dimensional analysis and conversion from one unit to another.

To demonstrate achievement of the knowledge and skills in the measurement component of the strand, students should be able to use both metric and customary units of measurement for the following

- determine the relationship between different units within the same system and convert from one unit to another within and between measurement systems
- use scale drawings and models to determine measurements of the original
- solve problems involving dimensional analysis for rates and other compound units
- relate the effect of changing the choice of a linear unit on the related square and cubic units for area and volume, respectively

The geometry component of this strand includes computing the perimeter, area, and volume of the most common 2- and 3-dimensional figures, and using these common figures to estimate or compute the area of more complex objects.

To demonstrate acquisition of the knowledge and skills in the geometry component of the strand, students should be able to:

- describe, classify, and understand relationships between length, area, and volume among types of 2- and 3-dimensional objects
- use coordinate geometry to represent and examine the properties of figures and their images under translation and reflection
- understand and use the Pythagorean theorem
- recognize and demonstrate understanding of congruence in terms of the sides and angles of 2-dimensional figures

The following released test questions address the Measurement and Geometry strand on the CAHSEE.

MEASUREMENT AND GEOMETRY

34. A boy is two meters tall. About how tall is the boy in feet (ft) and inches (in)? (1 meter ≈ 39 inches.)

A 5 ft 0 in

B 5 ft 6 in

C 6 ft 0 in

D 6 ft 6 in

M02044

35. Juanita exercised for one hour. How many <u>seconds</u> did Juanita exercise?

A 60

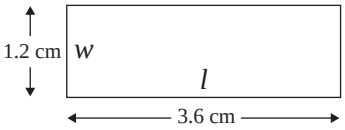
B 120

C 360

D 3,600

M03074

36. The actual width (*w*) of a rectangle is 18 centimeters (cm). Use the scale drawing of the rectangle to find the actual length (*l*).



A 6 cm

B 24 cm

C 36 cm

D 54 cm

M02087

37. Sixty miles per hour is the same rate as which of the following?

A 1 mile per minute

B 1 mile per second

C 6 miles per minute

D 360 miles per second

M02473

38. Beverly ran six miles at the speed of four miles per hour. How long did it take her to run that distance?

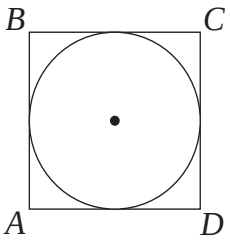
A $\frac{2}{3}$ hr

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

C 4 hrs

D 6 hrs

M02041



39. In the figure above, the radius of the inscribed circle is 6 inches (in). What is the perimeter of square *ABCD*?

A 12π in

B 36π in

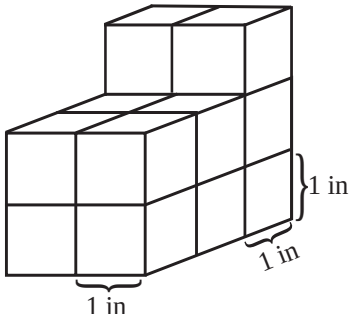
C 24 in

D 48 in

M02236

MEASUREMENT AND GEOMETRY

40. One-inch cubes are stacked as shown in the drawing below.



What is the <u>total</u> surface area?

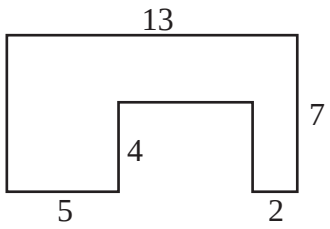
A 19 in^2

B 29 in^2

C 32 in^2

D 38 in^2

M02812



41. In the figure shown above, all the corners form right angles. What is the area of the figure in square units?

A 67

B 73

C 78

D 91

M00318

42. A cereal manufacturer needs a box that can hold twice as much cereal as the box shown below.

Which of the following changes will result in the desired box? (*V* = *lwh*)

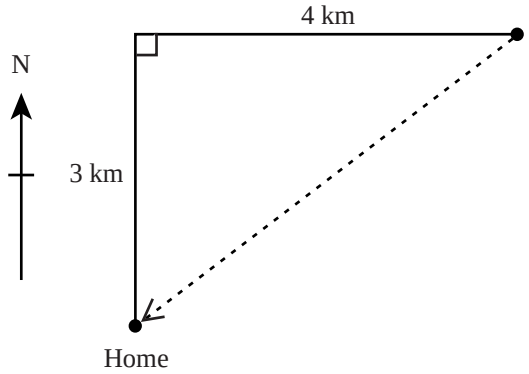
A Double the height only.

B Double both the length and width.

C Double both the length and height.

D Double the length, width and height.

M02988



43. The club members hiked 3 kilometers north and 4 kilometers east, but then went directly home as shown by the dotted line. How far did they travel to get home?

A 4 km

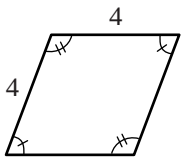
B 5 km

C 6 km

D 7 km

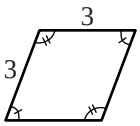
M00120

MEASUREMENT AND GEOMETRY

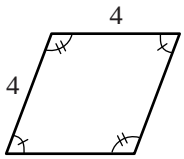


44. Which figure is congruent to the figure shown above?

A



B



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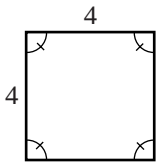

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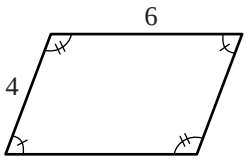


M00020

MEASUREMENT AND GEOMETRY

Item Number	Standard	Answer Key
34	MG 1.1	D
35	MG 1.1	D
36	MG 1.2	D
37	MG 1.3	A
38	MG 1.3	B
39	MG 2.1	D
40	MG 2.2	D
41	MG 2.2	A
42	MG 2.3	A
43	MG 3.3	B
44	MG 3.4	B

Algebra 1

The Algebra 1 strand builds upon students' knowledge and skills developed from their experience with linear functions, tables, graphs, verbal rules, and symbolic rules. As students deepen their understanding of relations and functions, they will expand their capacity to make meaningful use of new types of functions, including polynomial, exponential, rational, and periodic functions. Important new learning includes combining functions, expressing functions in equivalent forms, and finding inverses. This experience leads to a more global understanding of classes of functions as a concept and the recognition of the significant characteristics of various classes.

To demonstrate achievement in the Algebra 1 strand, students must also develop insights into mathematical abstraction and structure. Students should develop understanding of the algebraic properties that govern the manipulation of symbols in expressions. As students become more familiar with these types of abstractions, they develop the means to solve equations and inequalities, express equivalent forms, and assert proofs.

Facility with abstraction and deeper knowledge of functions and relations gives students more powerful mathematical tools to analyze and describe situations. Tools such as graphs and other visual representations of phenomena provide additional insights into problems and applications.

Standards in the Algebra 1 strand include performing operations such as opposite (additive inverse), reciprocal, and root; solving equations and inequalities with absolute values; simplifying expressions; solving multi-step problems with linear equations and inequalities; graphing linear equations and finding the x and y-intercepts; verifying points on a line given an equation; deriving linear equations; understanding and using the relationship between parallel lines and slopes; solving systems of linear equations, including meaningfully interpreting their graphical representations; performing operations and solving multi-step problems with monomials and polynomials; and solving rate, work, and percent mixture problems.

The following released test questions address the Algebra 1 strand on the CAHSEE.

ALGEBRA 1

45 **If $x = -7$, then $-x =$**

A -7

B $-\frac{1}{7}$

C $\frac{1}{7}$

D 7

M02863

46. The perimeter, *P*, of a square may be found by using the formula $(\frac{1}{4})P = \sqrt{A}$, where *A* is the area of the square. What is the perimeter of the square with an area of 36 square inches?

A 9 inches

B 12 inches

C 24 inches

D 72 inches

M00057

47. If x is an integer, what is the solution to $|x - 3| < 1$?

A $\{-3\}$

B $\{-3, -2, -1, 0, 1\}$

C $\{3\}$

D $\{-1, 0, 1, 2, 3\}$

M03035

48. Which of the following is equivalent to $4(x + 5) - 3(x + 2) = 14$?

A $4x + 20 - 3x - 6 = 14$

B $4x + 5 - 3x + 6 = 14$

C $4x + 5 - 3x + 2 = 14$

D $4x + 20 - 3x - 2 = 14$

M02936

49. Which of the following is equivalent to $9 - 3x > 4(2x - 1)$?

A $13 < 11x$

B $13 > 11x$

C $10 > 11x$

D $6x > 0$

M02531

50. Solve for x.

$$5(2x - 3) - 6x < 9$$

A $x < -1.5$

B $x < 1.5$

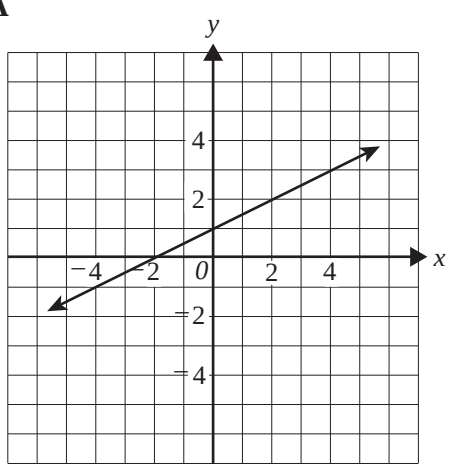
C $x < 3$

D $x < 6$

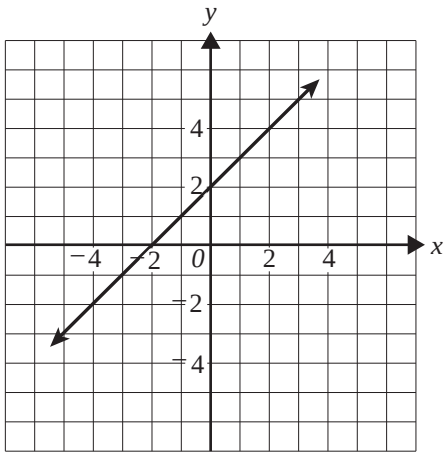
M02938

51. Which of the following is the graph of $y = \frac{1}{2}x + 2$?

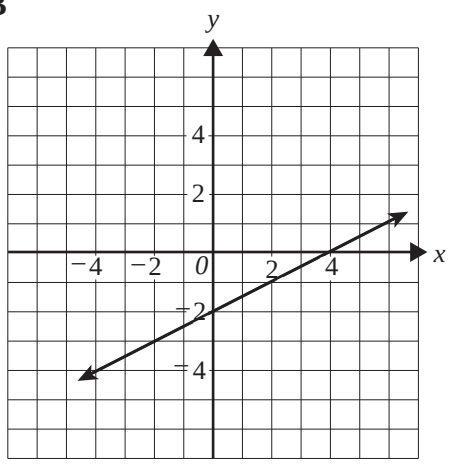
A



C



B



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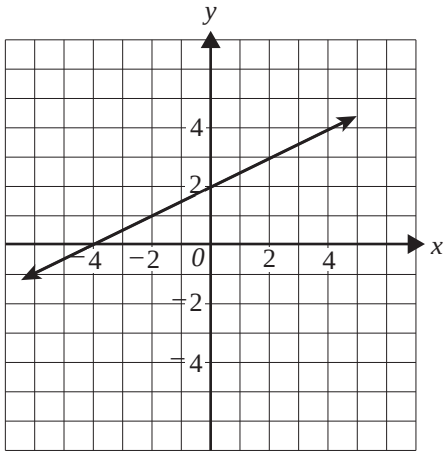


M02026

ALGEBRA 1

52. Which of the following points lies on the line $4x + 5y = 20$?

A (0, 4)

B (0, 5)

C (4, 5)

D (5, 4)

M02565

53. What is the slope of a line parallel to the line $y = \frac{1}{3}x + 2$?

A -3

B $-\frac{1}{3}$

C $\frac{1}{3}$

D 2

M02565

$$\begin{cases} 7x + 3y = -8 \\ -4x - y = 6 \end{cases}$$

54. What is the solution to the system of equations shown above?

A (–2, –2)

B (–2, 2)

C (2, –2)

D (2, 2)

M02956

55. Mr. Jacobs can correct 150 quizzes in 50 minutes. His student aide can correct 150 quizzes in 75 minutes. Working together, how many minutes will it take them to correct 150 quizzes?

A 30

B 60

C 63

D 125

M03000

ALGEBRA 1

Item Number	Standard	Answer Key
45	A1 2.0	D
46	A1 2.0	C
47	A1 3.0	C
48	A1 4.0	A
49	A1 4.0	B
50	A1 5.0	D
51	A1 6.0	D
52	A1 7.0	A
53	A1 8.0	C
54	A1 9.0	B
55	A1 15.0	A

Mathematical Reasoning

Reasoning is an integral part of mathematics and requires examining patterns for regularities, making and testing conjectures about generalizations, and using inductive and deductive reasoning to formulate mathematical arguments. Each of these elements of reasoning and learning to reason requires frequent and diverse experiences. Significant in these activities are the selection and use of language, care and consideration for its clarity and appropriateness, and the rigor and precision of context and information.

Standards in mathematical reasoning require students to analyze problems by identifying relationships, formulate and justify conjectures, use estimation, including graphical information, use inductive and deductive reasoning, evaluate the reasonableness of solutions, and generalize results and apply them to new problems.

The following released test questions address the Mathematical Reasoning strand on the CAHSEE.

NOTE: Each question in this strand also addresses a standard in one of the other five strands and is classified by that strand for purposes of reporting student scores. For example, the first question in the following set is classified as MR 1.1 and also AF 4.2.

56. Chris drove 100 kilometers from San Francisco to Santa Cruz in 2 hours and 30 minutes. What computation will give Chris' average speed, in kilometers per hour?

A Divide 100 by 2.5.

B Divide 100 by 2.3.

C Multiply 100 by 2.5.

D Multiply 100 by 2.3.

M03164

57. If *n* is any odd number, which of the following is true about *n* + 1?

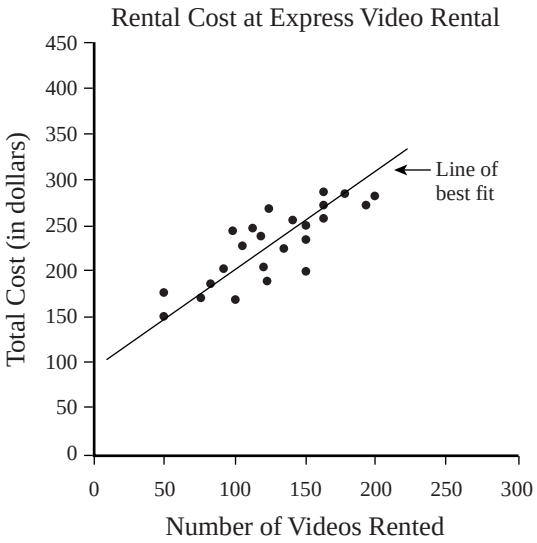
A It is an odd number.

B It is an even number.

C It is a prime number.

D It is the same number as *n* – 1.

M00155



58. Using the line of best fit shown on the scatter plot above, which of the following best approximates the rental cost per video to rent 300 videos?

A $3.00

B $2.50

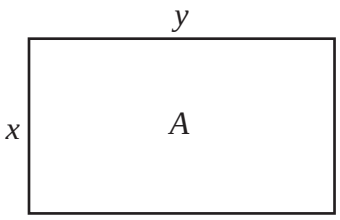
C $2.00

D $1.50

M02209

MATHEMATICAL REASONING

59. The rectangle shown below has width *x*, length *y*, and area *A*.



If $x = 10$ and $y > 17$, which of the following <u>cannot</u> be the area of the rectangle?

A 170

B 180

C 190

D 200

M00319

Len runs a mile in 8 minutes. At this rate how long will it take him to run a 26-mile marathon?

60. Which of the following problems can be solved using the same arithmetic operations that are used to solve the problem above?

A Len runs 26 miles in 220 minutes. How long does it take him to run each mile?

B A librarian has 356 books to place on 18 shelves. Each shelf will contain the same number of books. How many books can the librarian place on each shelf?

C A cracker box weighs 200 grams. What is the weight of 100 boxes?

D Each basket of strawberries weighs 60 grams. How many baskets can be filled from 500 grams of strawberries?

M00137

MATHEMATICAL REASONING

Item Number	Standard	Standard	Answer Key
56	MR 1.1	AF 4.2	A
57	MR 1.2	AF 1.1	B
58	MR 2.3	P7 1.2	D
59	MR 3.1	MG 2.1	A
60	MR 3.3	NS 1.2	C