Introduction - Grade 7 Mathematics

The following released test questions are taken from the Grade 7 Mathematics Standards Test. This test is one of the California Standards Tests administered as part of the Standardized Testing and Reporting (STAR) Program under policies set by the State Board of Education.

All questions on the California Standards Tests are evaluated by committees of content experts, including teachers and administrators, to ensure their appropriateness for measuring the California academic content standards in Grade 7 Mathematics. In addition to content, all items are reviewed and approved to ensure their adherence to the principles of fairness and to ensure no bias exists with respect to characteristics such as gender, ethnicity, and language.

This document contains released test questions from the California Standards Test forms in 2003, 2004, 2005, 2006, and 2007. First on the pages that follow are lists of the standards assessed on the Grade 7 Mathematics Test. Next are released test questions. Following the questions is a table that gives the correct answer for each question, the content standard that each question is measuring, and the year each question last appeared on the test.

The following table lists each strand/reporting cluster, the number of items that appear on the exam, and the number of released test questions that appear in this document.

STRAND/REPORTING CLUSTER	NUMBER OF QUESTIONS ON EXAM	NUMBER OF RELEASED TEST QUESTIONS
Number Sense – Rational Numbers	14	17
Number Sense – Exponents, Powers, and Roots	8	11
Algebra and Functions – Quantitative Relationships and Evaluating Expressions	10	14
Algebra and Functions – Multi-step Problems, Graphing, and Functions	15	17
Measurement and Geometry	13	16
Statistics, Data Analysis, and Probability	5	5
TOTAL	65	80

In selecting test questions for release, three criteria are used: (1) the questions adequately cover a selection of the academic content standards assessed on the Grade 7 Mathematics Test; (2) the questions demonstrate a range of difficulty; and (3) the questions present a variety of ways standards can be assessed. These released test questions do not reflect all of the ways the standards may be assessed. Released test questions will not appear on future tests.

For more information about the California Standards Tests, visit the California Department of Education's Web site at http://www.cde.ca.gov/ta/tg/sr/resources.asp.

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THE NUMBER SENSE STRAND

In Grade 7, there are two reporting clusters within the Number Sense strand: 1) Rational Numbers and 2) Exponents, Powers, and Roots. This booklet contains released test questions for each of these clusters.

The following seven California content standards are included in the Rational Numbers reporting cluster of the Number Sense strand and are represented in this booklet by 17 test questions. These questions represent only some ways in which these standards may be assessed on the Grade 7 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS REPORTING CLUSTER

Number Sense	
Standard Set 1.0	**Students know the properties of, and compute with, rational numbers expressed in a variety of forms:**
7NS1.1	Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10) with approximate numbers using scientific notation.
7NS1.2*	Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.
7NS1.3	Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.
7NS1.4*	Differentiate between rational and irrational numbers.
7NS1.5*	Know that every rational number is either a terminating or repeating decimal and be able to convert terminating decimals into reduced fractions.
7NS1.6	Calculate the percentage of increases and decreases of a quantity.
7NS1.7*	Solve problems that involve discounts, markups, commissions, and profit and compute simple and compound interest.

* Denotes key standards (*Mathematics Framework for California Public Schools*)

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The following five California content standards are included in the Exponents, Powers, and Roots reporting cluster of the Number Sense strand and are represented in this booklet by 11 test questions. These questions represent only some ways in which these standards may be assessed on the Grade 7 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS REPORTING CLUSTER

Number Sense	
Standard Set 2.0	**Students use exponents, powers, and roots and use exponents in working with fractions:**
7NS2.1	Understand negative whole-number exponents. Multiply and divide expressions involving exponents with a common base.
7NS2.2*	Add and subtract fractions by using factoring to find common denominators.
7NS2.3*	Multiply, divide, and simplify rational numbers by using exponent rules.
7NS2.4	Use the inverse relationship between raising to a power and extracting the root of a perfect square integer; for an integer that is not square, determine without a calculator the two integers between which its square root lies and explain why.
7NS2.5*	Understand the meaning of the absolute value of a number; interpret the absolute value as the distance of the number from zero on a number line; and determine the absolute value of real numbers.

* Denotes key standards (*Mathematics Framework for California Public Schools*)

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THE ALGEBRA AND FUNCTIONS STRAND

In Grade 7, there are two reporting clusters within the Algebra and Functions strand: 1) Quantitative Relationships and Evaluating Expressions and 2) Multi-step Problems, Graphing, and Functions. This booklet contains released test questions for each of these clusters.

The following seven California content standards are included in the Quantitative Relationships and Evaluating Expressions reporting cluster of the Algebra and Functions strand and are represented in this booklet by 14 test questions. These questions represent only some ways in which these standards may be assessed on the Grade 7 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS REPORTING CLUSTER

Algebra and Functions	
Standard Set 1.0	**Students express quantitative relationships by using algebraic terminology, expressions, equations, inequalities, and graphs:**
7AF1.1	Use variables and appropriate operations to write an expression, an equation, an inequality, or a system of equations or inequalities that represents a verbal description (e.g., three less than a number, half as large as area A).
7AF1.2	Use the correct order of operations to evaluate algebraic expressions such as $3(2x + 5)^2$.
7AF1.3*	Simplify numerical expressions by applying properties of rational numbers (e.g., identity, inverse, distributive, associative, commutative) and justify the process used.
7AF1.4	Use algebraic terminology (e.g., variable, equation, term, coefficient, inequality, expression, constant) correctly.
7AF1.5	Represent quantitative relationships graphically and interpret the meaning of a specific part of a graph in the situation represented by the graph.
Standard Set 2.0	**Students interpret and evaluate expressions involving integer powers and simple roots:**
7AF2.1	Interpret positive whole-number powers as repeated multiplication and negative whole-number powers as repeated division or multiplication by the multiplicative inverse. Simplify and evaluate expressions that include exponents.
7AF2.2	Multiply and divide monomials; extend the process of taking powers and extracting roots to monomials when the latter results in a monomial with an integer exponent.

* Denotes key standards (*Mathematics Framework for California Public Schools*)

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The following six California content standards are included in the Multi-step Problems, Graphing, and Functions reporting cluster of the Algebra and Functions strand and are represented in this booklet by 17 test questions. These questions represent only some ways in which these standards may be assessed on the Grade 7 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS REPORTING CLUSTER

Algebra and Functions	
Standard Set 3.0	**Students graph and interpret linear and some nonlinear functions:**
7AF3.1	Graph functions of the form $y = nx^2$ and $y = nx^3$ and use in solving problems.
7AF3.2	Plot the values from the volumes of three-dimensional shapes for various values of the edge lengths (e.g., cubes with varying edge lengths or a triangle prism with a fixed height and an equilateral triangle base of varying lengths).
7AF3.3*	Graph linear functions, noting that the vertical change (change in *y*-value) per unit of horizontal change (change in *x*-value) is always the same and know that the ratio ("rise over run") is called the slope of a graph.
7AF3.4*	Plot the values of quantities whose ratios are always the same (e.g., cost to the number of an item, feet to inches, circumference to diameter of a circle). Fit a line to the plot and understand that the slope of the line equals the ratio of the quantities.
Standard Set 4.0*	**Students solve simple linear equations and inequalities over the rational numbers:**
7AF4.1*	Solve two-step linear equations and inequalities in one variable over the rational numbers, interpret the solution or solutions in the context from which they arose, and verify the reasonableness of the results.
7AF4.2*	Solve multistep problems involving rate, average speed, distance, and time or a direct variation.

* Denotes key standards (*Mathematics Framework for California Public Schools*)

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THE MEASUREMENT AND GEOMETRY STRAND/REPORTING CLUSTER

The following 12 California content standards are included in the Measurement and Geometry strand/reporting cluster and are represented in this booklet by 16 test questions. These questions represent only some ways in which these standards may be assessed on the Grade 7 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS STRAND/CLUSTER

Measurement and Geometry	
Standard Set 1.0	**Students choose appropriate units of measure and use ratios to convert within and between measurement systems to solve problems:**
7MG1.1	Compare weights, capacities, geometric measures, times, and temperatures within and between measurement systems (e.g., miles per hour and feet per second, cubic inches to cubic centimeters).
7MG1.2	Construct and read drawings and models made to scale.
7MG1.3*	Use measures expressed as rates (e.g., speed, density) and measures expressed as products (e.g., person-days) to solve problems; check the units of the solutions; and use dimensional analysis to check the reasonableness of the answer.
Standard Set 2.0	**Students compute the perimeter, area, and volume of common geometric objects and use the results to find measures of less common objects. They know how perimeter, area, and volume are affected by changes of scale:**
7MG2.1	Use formulas routinely for finding the perimeter and area of basic two-dimensional figures and the surface area and volume of basic three-dimensional figures, including rectangles, parallelograms, trapezoids, squares, triangles, circles, prisms, and cylinders.
7MG2.2	Estimate and compute the area of more complex or irregular two- and three-dimensional figures by breaking the figures down into more basic geometric objects.
7MG2.3	Compute the length of the perimeter, the surface area of the faces, and the volume of a three-dimensional object built from rectangular solids. Understand that when the lengths of all dimensions are multiplied by a scale factor, the surface area is multiplied by the square of the scale factor and the volume is multiplied by the cube of the scale factor.
7MG2.4	Relate the changes in measurement with a change of scale to the units used (e.g., square inches, cubic feet) and to conversions between units (1 square foot = 144 square inches or [1 ft^2] = [144 in^2], 1 cubic inch is approximately 16.38 cubic centimeters or [1 in^3] = [16.38 cm^3]).

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Standard Set 3.0	Students know the Pythagorean theorem and deepen their understanding of plane and solid geometric shapes by constructing figures that meet given conditions and by identifying attributes of figures:
7MG3.1	Identify and construct basic elements of geometric figures (e.g., altitudes, midpoints, diagonals, angle bisectors, and perpendicular bisectors; central angles, radii, diameters, and chords of circles) by using a compass and straightedge.
7MG3.2	Understand and use coordinate graphs to plot simple figures, determine lengths and areas related to them, and determine their image under translations and reflections.
7MG3.3*	Know and understand the Pythagorean theorem and its converse and use it to find the length of the missing side of a right triangle and the lengths of other line segments and, in some situations, empirically verify the Pythagorean theorem by direct measurement.
7MG3.4*	Demonstrate an understanding of conditions that indicate two geometrical figures are congruent and what congruence means about the relationships between the sides and angles of the two figures.
7MG3.6*	Identify elements of three-dimensional geometric objects (e.g., diagonals of rectangular solids) and describe how two or more objects are related in space (e.g., skew lines, the possible ways three planes might intersect).

* Denotes key standards (*Mathematics Framework for California Public Schools*)

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THE STATISTICS, DATA ANALYSIS, AND PROBABILITY STRAND/REPORTING CLUSTER

The following three California content standards are included in the Statistics, Data Analysis, and Probability strand/reporting cluster and are represented in this booklet by five test questions. These questions represent only some ways in which these standards may be assessed on the Grade 7 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS STRAND/CLUSTER

Statistics, Data Analysis, and Probability	
Standard Set 1.0	**Students collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set by hand and through the use of an electronic spreadsheet software program:**
7PS1.1	Know various forms of display for data sets, including a stem-and-leaf plot or box-and-whisker plot; use the forms to display a single set of data or to compare two sets of data.
7PS1.2	Represent two numerical variables on a scatterplot and informally describe how the data points are distributed and any apparent relationship that exists between the two variables (e.g., between time spent on homework and grade level).
7PS1.3*	Understand the meaning of, and be able to compute, the minimum, the lower quartile, the median, the upper quartile, and the maximum of a data set.

* Denotes key standards (*Mathematics Framework for California Public Schools*)

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1 **Which shows 833,000 written in scientific notation?**

A 8.33×10^3

B 8.33×10^4

C 8.33×10^5

D 8.33×10^6

CSM00333

2 **The length of a room is 5.048×10^2 cm. Which number is equivalent to this length?**

A 0.005048 cm

B 0.05048 cm

C 504.8 cm

D 504,800 cm

CSM21071

3

$$\left(\frac{2}{3}\right)^4 =$$

A $\frac{8}{81}$

B $\frac{16}{81}$

C $\frac{8}{3}$

D $\frac{16}{3}$

CSM10434

4 **Roberto paid $43.08 for 3 CDs. All 3 CDs were the same price. How much did each CD cost?**

A $11.36

B $14.36

C $40.08

D $46.08

CSM10189

5 **Dacia made a snack mix using the ingredients listed below.**

$1\frac{1}{4}$ cups granola	$\frac{3}{4}$ cup peanuts
$\frac{1}{2}$ cup raisins	$\frac{1}{4}$ cup chocolate chips

What is the total amount of all four ingredients?

A $1\frac{3}{4}$ cups

B $2\frac{1}{4}$ cups

C $2\frac{1}{2}$ cups

D $2\frac{3}{4}$ cups

CSM10210

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6 $\frac{3}{4} \times 3 =$

A $\frac{6}{12}$

B $\frac{9}{12}$

C $\frac{6}{4}$

D $\frac{9}{4}$

CSM01930

7 Which of the following is equivalent to $\frac{5}{2}$?

A 2.25

B 2.5

C 5.2

D 5.25

CSM01854

8 Tasha is buying a CD that is regularly \$12.99 and is on sale for $\frac{1}{4}$ off. Which expression can she use to estimate the discount on the CD?

A $0.0025 \times \$13$

B $0.04 \times \$13$

C $0.25 \times \$13$

D $0.40 \times \$13$

CSM10148

9 Which is an irrational number?

A $\sqrt{5}$

B $\sqrt{9}$

C -1

D $-\frac{2}{3}$

CSM00335

10 Which fraction is the same as 3.08?

A $\frac{56}{25}$

B $\frac{77}{25}$

C $\frac{19}{5}$

D $\frac{32}{5}$

CSM10161

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11 **A sweater originally cost $37.50. Last week, Moesha bought it at 20% off.**

How much was deducted from the original price?

A $7.50

B $17.50

C $20.00

D $30.00

CSM00518

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12 **Jason bought a jacket on sale for 50% off the original price and another 25% off the discounted price. If the jacket originally cost $88, what was the final sale price that Jason paid for the jacket?**

A $22

B $33

C $44

D $66

CSM01397

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13 **Marl borrowed $200 at 12% simple interest for one year. If he makes no payments that year, how much interest will he owe at the end of the year?**

A $6.00

B $12.00

C $22.40

D $24.00

CSM02311

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14 **Tamika works in a shoe store and is paid a 12% commission on her sales. In January her sales total was $3740. To the nearest dollar, how much did Tamika earn in commission for January?**

A $312

B $449

C $3291

D $4189

CSM11074

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15 **Stuart is buying a pair of jeans that regularly cost $40. They are on sale for 20% off. If the tax rate is 8%, what is the sale price of the jeans including tax?**

A $21.60

B $34.56

C $42.34

D $44.16

CSM11608

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16 **A calculator that is regularly priced $20 is on sale for 40% off. What is the sale price of the calculator?**

A $8

B $12

C $15

D $16

CSM21003

17 **The percentage discount at a store is determined using the table below.**

Sale Discounts

Total Purchases	Discount
less than $50	25%
$50 to $100	30%
over $100	35%

Shamika bought 3 skirts that cost $25 each before the discount. What was her total after the discount?

A $45.00

B $48.75

C $52.50

D $56.25

CSM21590

18 **Which of the following has the same value as $5^6 \times 5^{-2}$?**

A 5^{-12}

B 5^{-3}

C 5^4

D 5^8

CSM10165

19 $(jk)^{-5}(jk)^3 =$

A $(jk)^{-2}$

B $(jk)^{-8}$

C $(2jk)^{-2}$

D $(2jk)^{-8}$

CSM21591

20 **Which of the following shows the next step using the least common denominator to simplify $\frac{7}{8} - \frac{5}{6}$?**

A $\left(\frac{7}{8} \times \frac{3}{3}\right) - \left(\frac{5}{6} \times \frac{4}{4}\right)$

B $\left(\frac{7}{8} \times \frac{4}{4}\right) - \left(\frac{5}{6} \times \frac{3}{3}\right)$

C $\left(\frac{7}{8} \times \frac{5}{5}\right) - \left(\frac{5}{6} \times \frac{7}{7}\right)$

D $\left(\frac{7}{8} \times \frac{7}{7}\right) - \left(\frac{5}{6} \times \frac{5}{5}\right)$

CSM20890

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21

$$\frac{4^2 \bullet 3^5 \bullet 2^4}{4^3 \bullet 3^5 \bullet 2^2} =$$

A $\frac{4}{2}$

B $\frac{3}{2}$

C 1

D $\frac{1}{2}$

CSM02336

22 **Which expression is equivalent to $7^5 \times 7^{10}$?**

A 7^{15}

B 7^{50}

C 49^{15}

D 49^{50}

CSM21010

23 **Which value is equivalent to $\frac{3^{10}}{3^2}$?**

A 5

B 8

C 3^5

D 3^8

CSM11046

24

$$\sqrt{225} =$$

A 15

B 25

C 35

D 45

CSM01839

25 **If $x = 100$, what is the value of $4\sqrt{x}$?**

A 20

B 40

C 100

D 200

CSM21141

26

$$|9-5| - |6-8| =$$

A –6

B –2

C 2

D 6

CSM01413

27 **Which expression has the *smallest* value?**

A $|-19|$

B $|-34|$

C $|11|$

D $|47|$

CSM10167

28 **If the values of the expressions below are plotted on a number line, which expression would be closest to five?**

A $|-4|$

B $|-18|$

C $|7|$

D $|16|$

CSM10168

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29 **The sum of a number (n) and 14 is 72. Which equation shows this relationship?**

A $14 + n = 72$

B $72n = 14$

C $14 - n = 72$

D $72 + n = 14$

CSM00858

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30 **If $x = 4$ and $y = 3$, then $xy - 2x =$**

A 4

B 6

C 19

D 40

CSM01923

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31 **If $m = 3$ and $n = 5$, what is the value of $4m + mn$?**

A 180

B 27

C 20

D 15

CSM00340

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32 **Which operation will change the value of any nonzero number?**

A adding zero

B multiplying by zero

C multiplying by one

D dividing by one

CSM01943

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33 **Which property is used in the equation below?**

$$12(x + 4) = 12x + 48$$

A Associative Property of Addition

B Commutative Property of Addition

C Distributive Property

D Reflexive Property

CSM01431

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34 **Which expression is equivalent to $3x - 3y$?**

A $3xy$

B $3(x - y)$

C $3x - y$

D $x - 3y$

CSM00846

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35 **Which of the following equations illustrates the inverse property of multiplication?**

A $5 \times \frac{1}{5} = 1$

B $5 \times 1 = 5$

C $5 \times 0 = 0$

D $5 \times 5 = 25$

CSM21604

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36 **Which equation shows the distributive property?**

A $4(3 + 6) = 12 + 24$

B $(4 + 3) + 6 = 6 + (4 + 3)$

C $(12 + 4) + 0 = 12 + 4$

D $(12 + 4) + 6 = 12 + (4 + 6)$

CSM10912

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37 **Which expression is the result of applying the distributive property to $8 \times (100 + 5)$?**

A 8×105

B 8×140

C $800 + 5$

D $800 + 40$

CSM21016

38 **Which of the following is an example of an inequality?**

A $3n - 6$

B $4n > 9$

C $2 = n - 1$

D $5 + 0 = 5$

CSM01848

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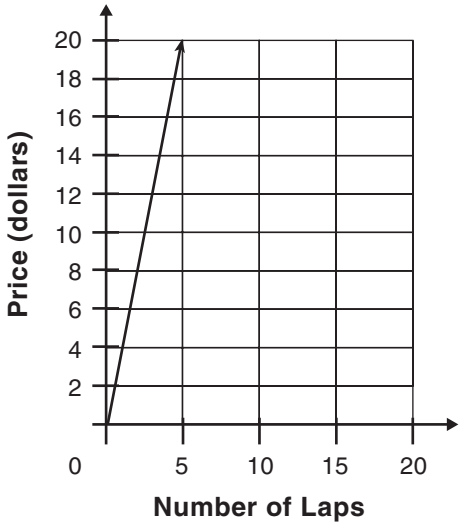
39 **The table below shows the charges for renting and racing a go-cart.**

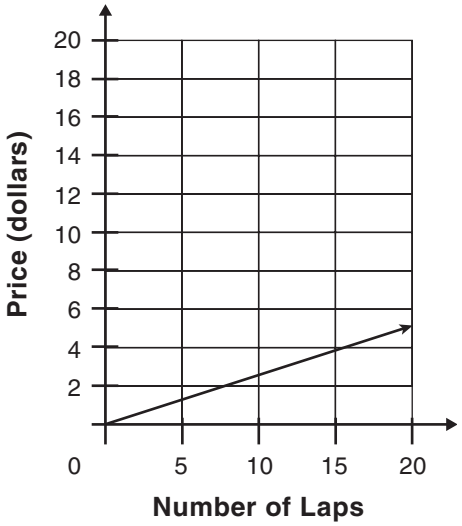
Grand Prix Go-Carts

Number of Laps	0	1	2	3	4	5
Price (dollars)	5	8	11	14	17	20

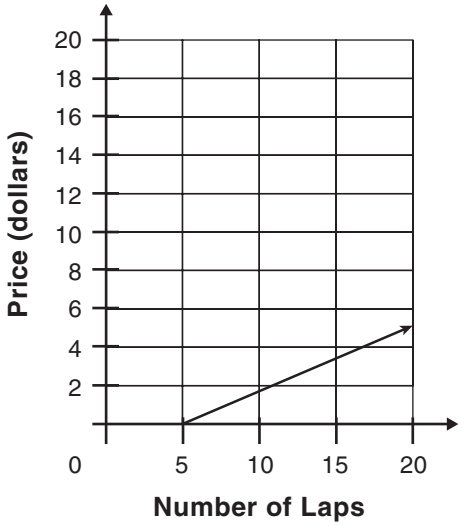
Which graph *best* represents these prices?



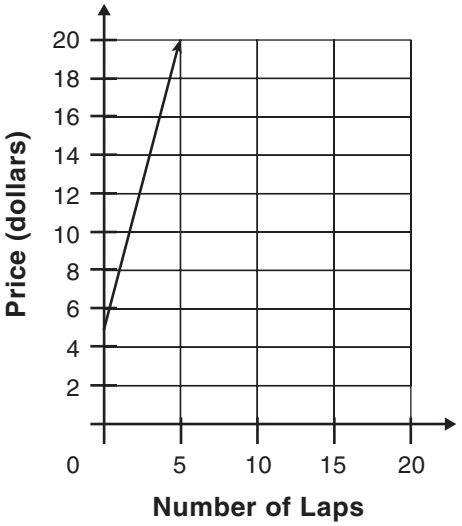
A



C



B



D

CSM10906

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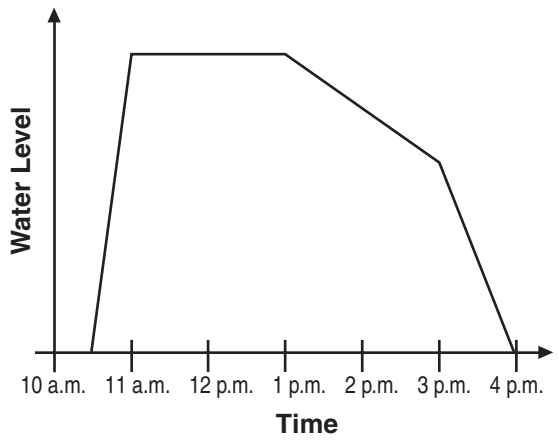
40

Wading Pool



Which statement *best* describes the water level of the pool from 2 p.m. to 3 p.m.?

A The pool is empty.

B The water level is constant.

C The water level is increasing.

D The water level is decreasing.

CSM21146

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41 **Which expression below has the same value as x^3?**

A $3x$

B $x \div 3$

C $x \bullet x \bullet x$

D $3x \bullet 3x \bullet 3x$

CSM10175

---

42 **Which expression is equivalent to $\frac{8a^6}{2a^3}$?**

A $6a^2$

B $6a^3$

C $4a^2$

D $4a^3$

CSM10176

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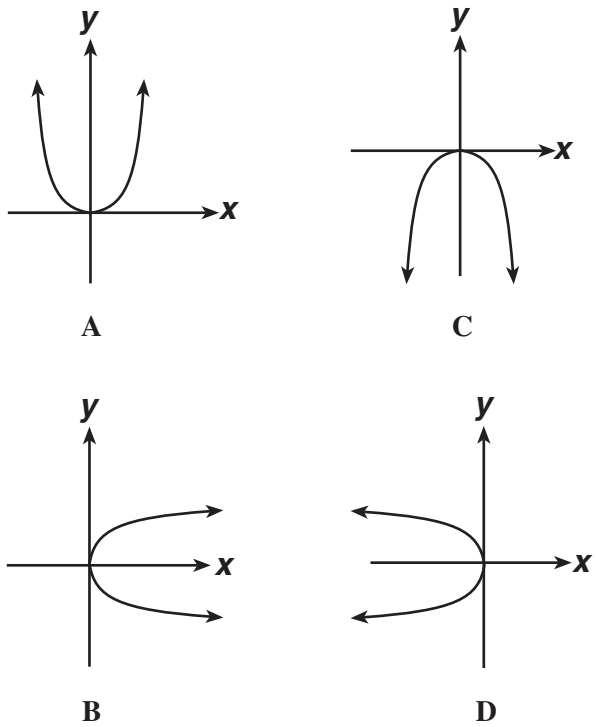
43 **Which graph shows $y = -x^2$?**



CSM00878

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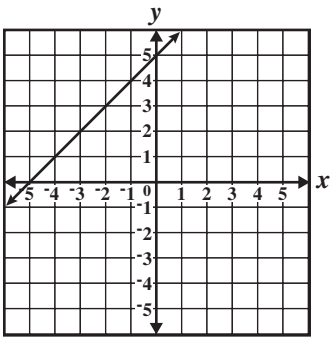
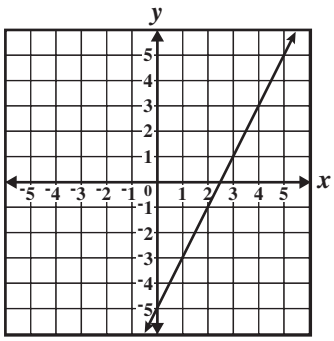
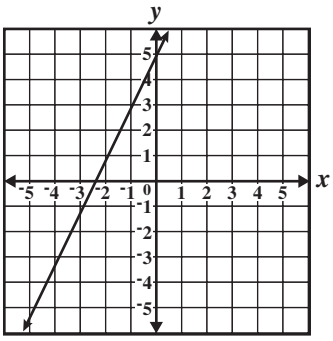
44 **Which *best* represents the graph of $y = 2x - 5$?**



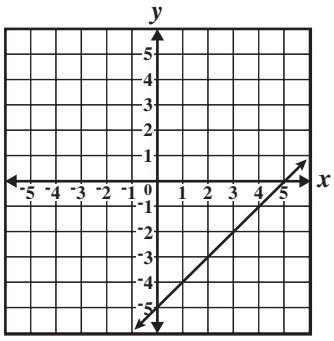
A



C



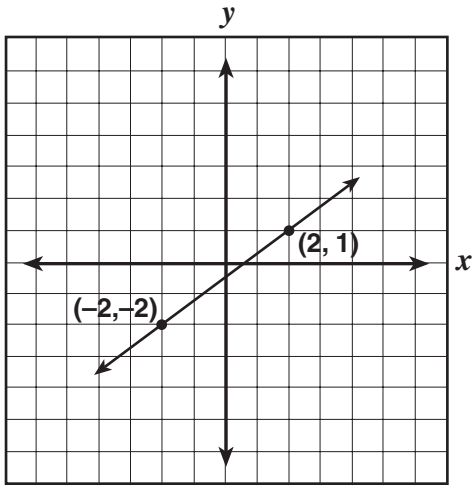
B



D

CSM00305

45 **What is the slope of this line?**



A $\frac{1}{2}$

B $\frac{3}{4}$

C 1

D $\frac{4}{3}$

CSM00849

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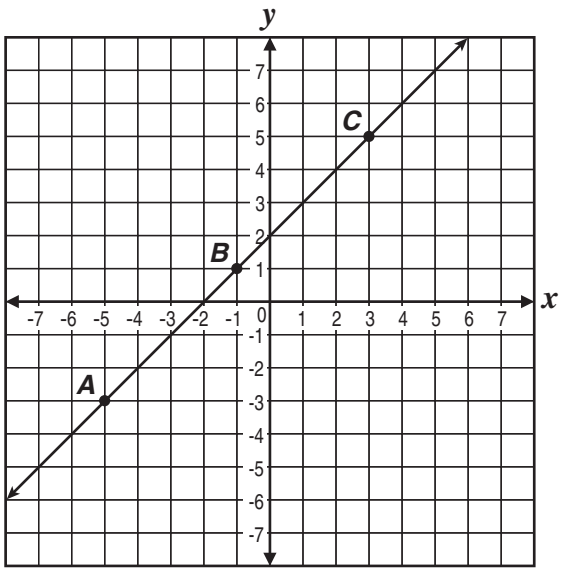
46 **Which statement is true about the slope of line $\overleftrightarrow{AC}$?**



A The slope is the ratio of the *x*- and *y*-intercepts.

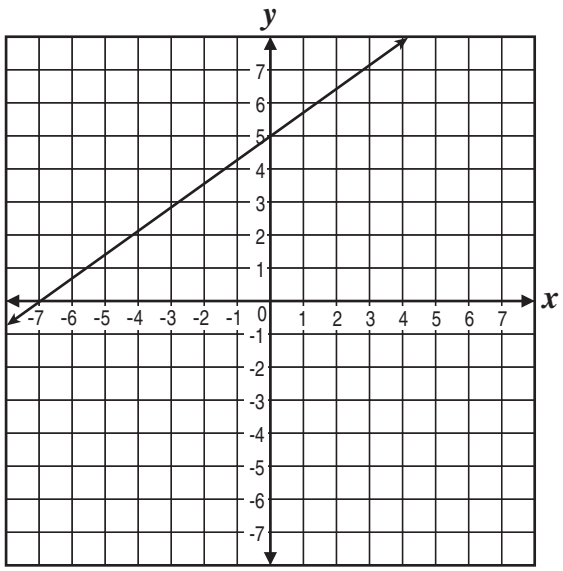
B The slope is the same between any two points on the line.

C The slope between point *A* and point *B* is greater than the slope between point *B* and point *C*.

D The slope between point *A* and point *C* is greater than the slope between point *A* and point *B*.

CSM21222

47 **What is the slope of the line?**



A -7

B $-\frac{5}{7}$

C $\frac{5}{7}$

D 5

CSM21221

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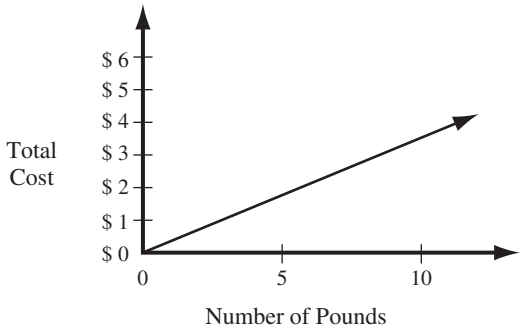
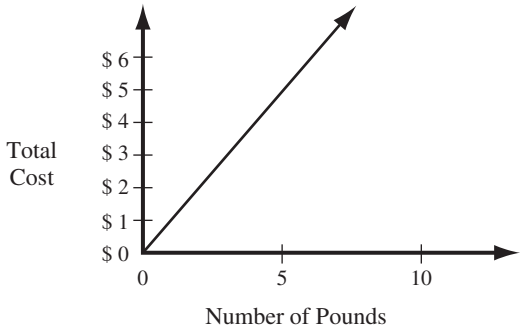
48 **Bananas are on sale at the price of 3 pounds for $1.00. Which graph shows the relationship between the number of pounds of bananas bought and the total cost?**

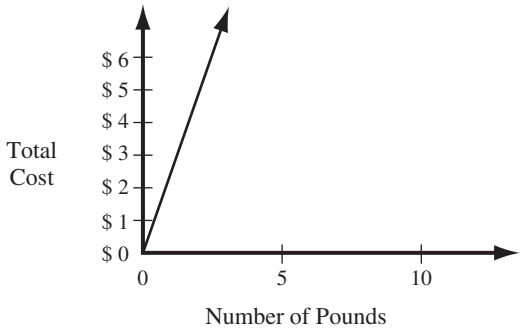
A



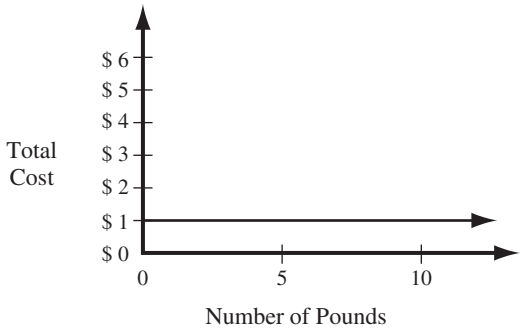
B



C



D



CSM00323

49 **What value of x makes the equation below true?**

$$\frac{x}{9} + 6 = 8$$

A 2

B 18

C 66

D 126

7A041507

50 **What is the solution set to the inequality $6z + 5 > 35$?**

A $\{z : z < 5\}$

B $\{z : z < 24\}$

C $\{z : z > 5\}$

D $\{z : z > 24\}$

7A041304

51 **What is the value of x if $-3x + 2 = -7$?**

A $x = -6$

B $x = -3$

C $x = 3$

D $x = 6$

CSM01932

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52 **Joan needs $60 for a class trip. She has $32. She can earn $4 an hour mowing lawns. If the equation shows this relationship, how many hours must Joan work to have the money she needs?**

$$4h + 32 = 60$$

A 7 hours

B 17 hours

C 23 hours

D 28 hours

CSM00529

---

53 **What value of x satisfies the equation $4x + 2 = 22$?**

A 3.5

B 5.0

C 6.0

D 7.5

CSM21766

---

54 **A duck flew at 18 miles per hour for 3 hours, then at 15 miles per hour for 2 hours. How far did the duck fly in all?**

A 69 miles

B 75 miles

C 81 miles

D 84 miles

CSM01942

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55 **Juanita earns $36 for 3 hours of work. At that rate, how long would she have to work to earn $720?**

A 12 hours

B 20 hours

C 60 hours

D 140 hours

CSM02316

---

56 **The distance a spring stretches varies directly with the force applied to it. If a 7-pound weight stretches a spring a distance of 24.5 inches, how far will the spring stretch if a 12-pound weight is applied?**

A 3.4 inches

B 19.5 inches

C 42 inches

D 294 inches

CSM10902

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57 **Marisa's car gets an average of 28 miles per gallon of gas. She plans to drive 200 miles today and 220 miles tomorrow. How many gallons of gas should she expect to use in all?**

A 15 gallons

B 28 gallons

C 56 gallons

D 67 gallons

CSM01415

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58 **Mr. Callaway needs to purchase enough grass seed to cover a 3000-square-foot lawn and a 4200-square-foot lawn. If 40 ounces of grass seed will seed a 2400-square-foot lawn, how many ounces does he need to seed both lawns?**

A 20

B 30

C 120

D 180

CSM10901

---

59 **Mr. Ogata drove 276 miles from his house to Los Angeles at an average speed of 62 miles per hour. His trip home took 6.5 hours. How did his speed on the way home compare to his speed on the way to Los Angeles?**

A It was about 2 miles per hour faster.

B It was about 2 miles per hour slower.

C It was about 20 miles per hour faster.

D It was about 20 miles per hour slower.

CSM21109

---

60 **How many millimeters are in 20 centimeters?**

A 0.02 millimeters

B 0.2 millimeters

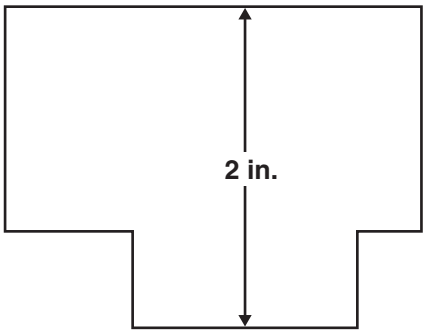
C 200 millimeters

D 20,000 millimeters

CSM01858

---

61 **Mr. Craig made a scale drawing of his office.**



$\frac{1}{2}$ inch = 3 feet

The width of the scale drawing of the office is 2 inches. What is the actual width, in feet, of Mr. Craig's office?

A 3

B 6

C 9

D 12

CSM30056

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62 **The chart below describes the speed of four desktop printers.**

Printer	Description
Roboprint	Prints 2 pages per second
Voltronn	Prints 1 page every 2 seconds
Vantek Plus	Prints 160 pages in 2 minutes
DLS Pro	Prints 100 pages per minute

Which printer is the *fastest*?

A Roboprint

B Voltronn

C Vantek Plus

D DLS Pro

CSM01946

63 **The atmosphere normally exerts a pressure of about 15 pounds per square inch on surfaces at sea level. About how much pressure does the atmosphere exert on a surface 30 square inches in area?**

A 2 pounds

B 15 pounds

C 45 pounds

D 450 pounds

CSM01373

64 **A utility company estimates that a power line repair job will take a total of 24 person-hours. If 3 workers are assigned to the job, how long will it take them to complete the job according to this estimate?**

A 8 hours

B 12 hours

C 27 hours

D 72 hours

CSM01432

65 **Citizens of Honduras use lempira for their money. In July 2002, the conversion rate for U.S. money to Honduran money was about 6 cents to 1 lempira. What dollar amount was equivalent to 300 lempiras?**

A $0.18

B $0.50

C $18.00

D $50.00

CSM10216

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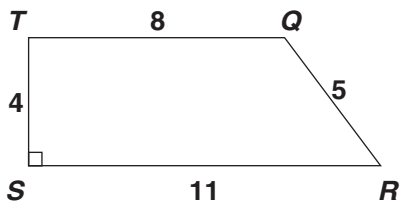
66 **What is the area of trapezoid *QRST* in square units?** $\left(A = \frac{1}{2}h(b_1 + b_2)\right)$



A 22

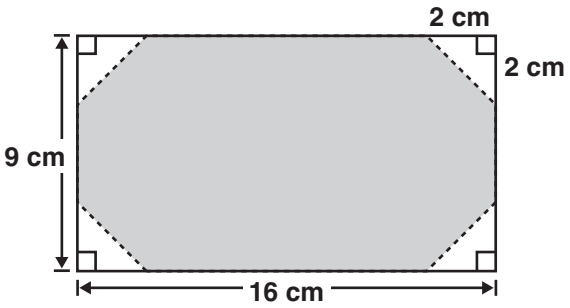
B 27

C 38

D 48

CSM10225

67 **Cherie cut four congruent triangles off the corners of a rectangle to make an octagon, as shown below.**



What is the area of the shaded octagon?

A 128 cm^2

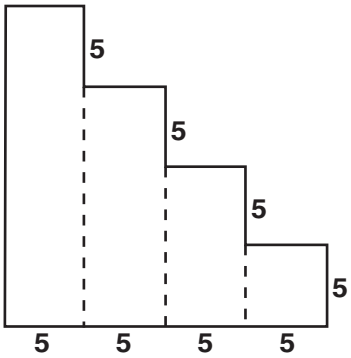
B 136 cm^2

C 140 cm^2

D 152 cm^2

CSM00308

68 **Elisa divided the staircase figure below into rectangles to help determine its area. All measurements are in millimeters.**



What is the total area of the figure?

A 150 mm^2

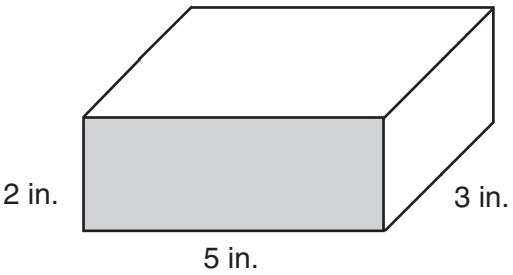
B 200 mm^2

C 250 mm^2

D 325 mm^2

CSM21056

69 **What is the volume of the rectangular solid shown below?**



A 10 cubic inches

B 25 cubic inches

C 30 cubic inches

D 62 cubic inches

CSM01901

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70 **Jason is 72 inches tall. Which measurement does *not* describe Jason's height?**

A 6 feet

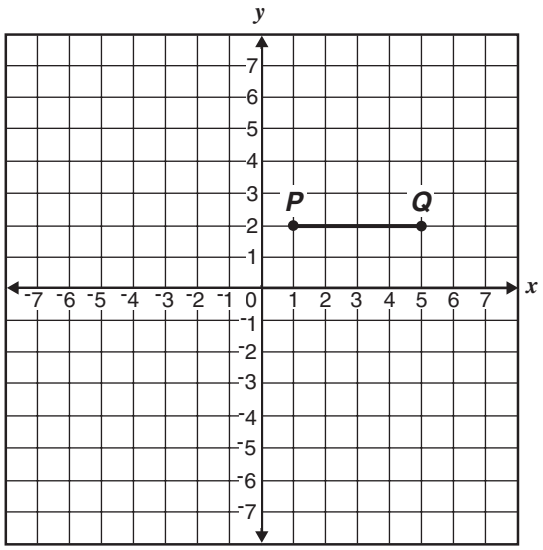
B 7 feet 2 inches

C 2 yards

D 182.88 centimeters

CSM01944

71 **Look at the coordinate grid below.**



Points *R* and *S* will be added to the grid to form rectangle *PQRS* with an area of 20 square units. Which ordered pairs could be the coordinates of points *R* and *S*?

A (5, −1) and (1, −1)

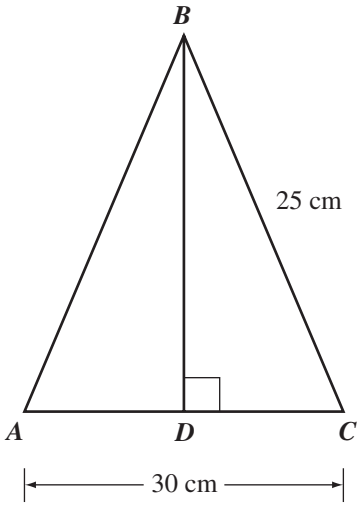
B (5, −2) and (1, −2)

C (5, −3) and (1, −3)

D (5, −4) and (1, −4)

CSM10186

72 **In the figure below, *D* is the midpoint of $\overline{AC}$, and $\overline{BD}$ is perpendicular to $\overline{AC}$.**



What is the length of $\overline{BD}$?

A 15 centimeters

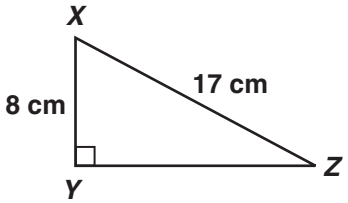
B 16 centimeters

C 18 centimeters

D 20 centimeters

CSM00330

73 **What is the length of $\overline{YZ}$?**



A 9 cm

B 15 cm

C 19 cm

D 25 cm

CSM21066

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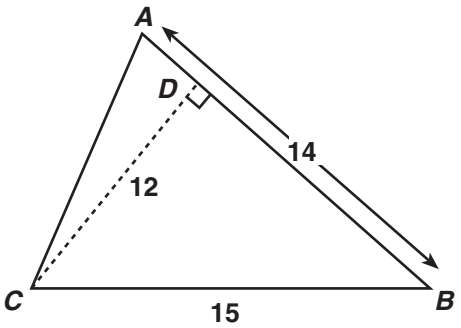
74 **In the figure below, $\overline{AB}$ and $\overline{CD}$ are perpendicular.**



What is the perimeter of $\triangle ABC$?

A 13

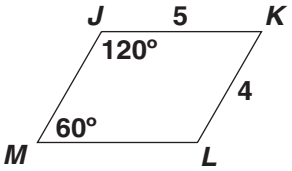
B 28

C 42

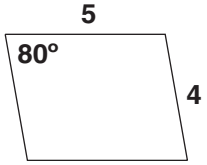
D 84

CSM00517

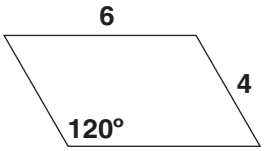
75 **Which parallelogram is congruent to parallelogram *JKLM*?**



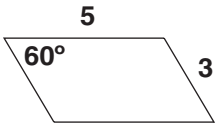
A



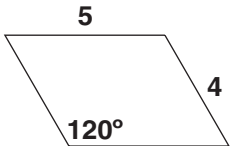
B



C



D



CSM10230

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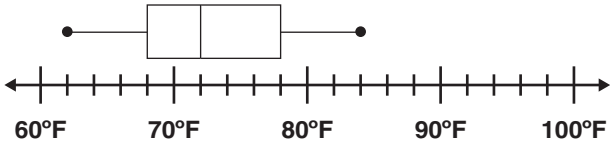
76 **The box-and-whisker plot below represents the daily high temperatures at a beach in April.**

Daily High Temperatures



What was the median daily high temperature?

A 68° F

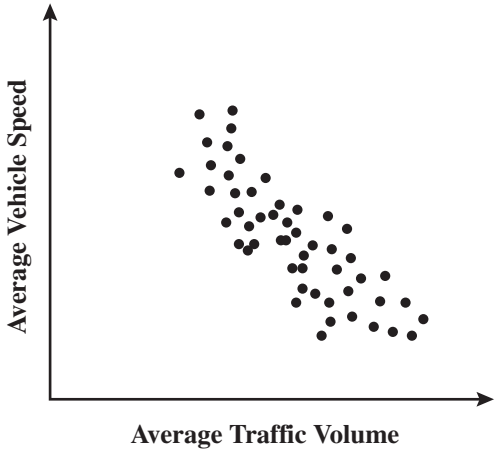
B 72° F

C 78° F

D 84° F

CSM10202

77 **The scatter plot below shows the average traffic volume and average vehicle speed on a certain freeway for 50 days in 1999.**



Which statement *best* describes the relationship between average traffic volume and average vehicle speed shown on the scatter plot?

A As traffic volume increases, vehicle speed increases.

B As traffic volume increases, vehicle speed decreases.

C As traffic volume increases, vehicle speed increases at first, then decreases.

D As traffic volume increases, vehicle speed decreases at first, then increases.

CSN00041

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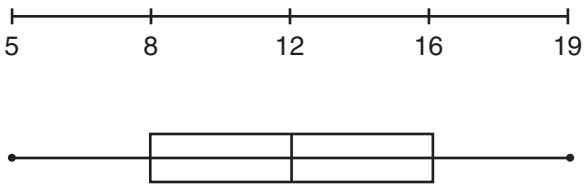
78 **The following data represent the number of years different students in a certain group have gone to school together: 12, 5, 8, 16, 15, 9, 19. These data are shown on the box-and-whisker plot below.**



What is the median of the data?

A 5

B 8

C 12

D 16

CSN00082

79 **The table shows the number of turkey and ham sandwiches sold by Derby's Deli for several days in one week.**

Sandwiches Sold at Derby's Deli

Day	Turkey	Ham
Monday	7	9
Tuesday	13	11
Wednesday	8	8
Thursday	15	6
Friday	12	16

What is the difference between the median number of turkey sandwiches sold and the median number of ham sandwiches sold?

A 0

B 1

C 2

D 3

CSM21123

80 **Jared scored the following numbers of points in his last 7 basketball games: 8, 21, 7, 15, 9, 15, and 2. What is the median number of points scored by Jared in these 7 games?**

A 9

B 11

C 15

D 19

CSN00200

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Question Number	Correct Answer	Standard	Year of Release
1	*C*	7NS1.1	2004
2	*C*	7NS1.1	2007
3	*B*	7NS1.2	2003
4	*B*	7NS1.2	2005
5	*D*	7NS1.2	2006
6	*D*	7NS1.2	2007
7	*B*	7NS1.3	2004
8	*C*	7NS1.3	2005
9	*A*	7NS1.4	2003
10	*B*	7NS1.5	2004
11	*A*	7NS1.6	2003
12	*B*	7NS1.7	2003
13	*D*	7NS1.7	2004
14	*B*	7NS1.7	2005
15	*B*	7NS1.7	2006
16	*B*	7NS1.7	2006
17	*C*	7NS1.7	2007
18	*C*	7NS2.1	2004
19	*A*	7NS2.1	2007
20	*A*	7NS2.2	2005
21	*C*	7NS2.3	2003
22	*A*	7NS2.3	2005
23	*D*	7NS2.3	2006
24	*A*	7NS2.4	2004
25	*B*	7NS2.4	2007
26	*C*	7NS2.5	2003
27	*C*	7NS2.5	2005
28	*A*	7NS2.5	2006
29	*A*	7AF1.1	2004
30	*A*	7AF1.2	2005
31	*B*	7AF1.2	2007
32	*B*	7AF1.3	2003
33	*C*	7AF1.3	2004
34	*B*	7AF1.3	2005
35	*A*	7AF1.3	2006
36	*A*	7AF1.3	2006
37	*D*	7AF1.3	2007
38	*B*	7AF1.4	2006
39	*D*	7AF1.5	2005
40	*D*	7AF1.5	2007

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Question Number	Correct Answer	Standard	Year of Release
41	*C*	7AF2.1	2004
42	*D*	7AF2.2	2004
43	*C*	7AF3.1	2005
44	*C*	7AF3.3	2003
45	*B*	7AF3.3	2004
46	*B*	7AF3.3	2005
47	*C*	7AF3.3	2007
48	*A*	7AF3.4	2003
49	*B*	7AF4.1	2003
50	*C*	7AF4.1	2003
51	*C*	7AF4.1	2004
52	*A*	7AF4.1	2005
53	*B*	7AF4.1	2006
54	*D*	7AF4.2	2003
55	*C*	7AF4.2	2003
56	*C*	7AF4.2	2004
57	*A*	7AF4.2	2005
58	*C*	7AF4.2	2007
59	*D*	7AF4.2	2007
60	*C*	7MG1.1	2004
61	*D*	7MG1.2	2006
62	*A*	7MG1.3	2003
63	*D*	7MG1.3	2006
64	*A*	7MG1.3	2007
65	*C*	7MG1.3	2007
66	*C*	7MG2.1	2005
67	*B*	7MG2.2	2004
68	*C*	7MG2.2	2007
69	*C*	7MG2.3	2005
70	*B*	7MG2.4	2006
71	*C*	7MG3.2	2006
72	*D*	7MG3.3	2003
73	*B*	7MG3.3	2006
74	*C*	7MG3.3	2007
75	*D*	7MG3.4	2006
76	*B*	7PS1.1	2005
77	*B*	7PS1.2	2003
78	*C*	7PS1.3	2004
79	*D*	7PS1.3	2006
80	*A*	7PS1.3	2007

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