ARIZONA'S
Instrument to Measure Standards

MATHEMATICS

Sample Test Items

AIMS
HIGH SCHOOL

FORM MA-ST-1

MATHEMATICS

Preface

The items contained here are items that are similar to those that will be found in future forms of Arizona's Instrument to Measure Standards (AIMS)-Mathematics. Some of the recently released core* items from Form A are included, as those concepts are "testable" and still represent the concept. However, these items and the new ones included here will not be on any future form of AIMS-Mathematics.

The test is comprised of multiple choice questions only; there are no short answer questions. The AIMS Reference Sheets that are included in this document are in every form of AIMS-Mathematics. The content of this sample test closely (but not exactly) resembles the actual blueprint of operational forms that was developed by the Mathematics Task Force in summer 2000. That is, the sample test is, in general, made up of the same number of items from each standard and concept. However, there are a few differences. For instance, Standard 3-Patterns, Algebra & Functions, is to have five items measuring concept 6, but the sample test has ten items measuring this concept. The purpose for providing so many more items for the sample test was to give an example item for as many performance objectives as possible.

Please note that, effective with the administration of Form D in spring 2001, the Mathematics test will be comprised of approximately 60 questions to be administered on one day. The suggested length of time to take the Mathematics test is approximately two hours. However, as has been the case to date, there is NO time limit. All students are to be allowed to work on the test as long as they would like provided they are working conscientiously.

Keep in mind that this document was not typeset; i.e., everything, including the graphics, was created using Microsoft Word and therefore does not match the formatting of the actual test *exactly*. In addition, with the exception of those items from Form A, all the created items were created for the purpose of demonstrating how an item that measures a particular performance objective might look on the test. Although they resemble items that may appear on the test, neither a content nor a bias committee reviewed any of the created items. Any errors are solely the responsibility of the author (an Arizona Department of Education employee) and not the test contractor, CTB/McGraw-Hill.

URGENT NOTICE:

When Form A of AIMS-Mathematics was released January 26, 2001, it was noted on page 14 that quadratic equations were no longer in the AIMS-Mathematics core*. This was an error. Quadratic equations are addressed in the Mathematics Standards in performance objective 3.6.11 that states, "Solve quadratic equations." The Mathematics Task Force that met in May 2000 had elected to keep this performance objective in the core. However, for purposes of AIMS, the Task Force was insistent that any items measuring this performance objective must use integral roots only.

*A mathematics Task Force met in May 2000 to identify those performance objectives that could reasonably be expected to be taught to and learned by all students in the required two-year mathematics curriculum as determined by the Arizona state Board of Education on April 24, 2000. These performance objectives are the "core" items of which students must demonstrate proficiency ("Meets the Standard") on AIMS-Mathematics.

Aims Reference Sheet

Area

Triangle	$\frac{1}{2}bh$
Rectangle	lw
Trapezoid	$\frac{1}{2}h(b_1 + b_2)$
Parallelogram	bh
Circle	πr^2

$Circumference = \pi d = 2\pi r$

Key

b	= base	d	= diameter
h	= height	r	= radius
l	= length		
w	= width		
ℓ	= slant height		

Use 3.14 or $\frac{22}{7}$ for p

Volume

		Total Surface Area
Right Circular Cone	$\frac{1}{3}\pi r^2 h$	$\frac{1}{2}(2\pi r)\ell + \pi r^2 = \pi r\ell + \pi r^2$
Square Pyramid	$\frac{1}{3}lwh$	$4(\frac{1}{2}l\ell) + l^2 = 2l\ell + l^2$
Sphere	$\frac{4}{3}\pi r^3$	$4\pi r^2$
Right Circular Cylinder	$\pi r^2 h$	$2\pi rh + 2\pi r^2$
Rectangular Solid	lwh	$2(lw) + 2(hw) + 2(lh)$

Quadratic Formula: $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Pythagorean Theorem: $c^2 = a^2 + b^2$
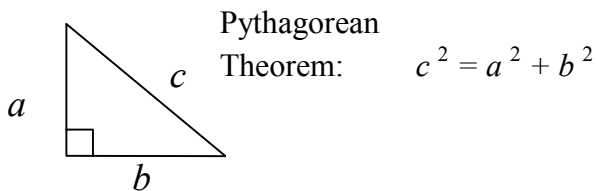
Slope-intercept form of an equation of a line, where m = slope and b = the y-intercept:

$y = mx + b$

Distance, rate, time formula, where d = distance, r = rate, t = time:

$d = rt$

Distance between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:

$$\sqrt{(x_2 - x_1)^2 + [y_2 - y_1]^2}$$

Midpoint between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$$

Slope between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Aims Reference Sheet

TRIGONOMETRIC RATIOS			
Angle	sin	cos	tan
0°	0.0000	1.0000	0.0000
30°	0.5000	0.8660	0.5774
45°	0.7071	0.7071	1.0000
60°	0.8660	0.5000	1.7321
90°	1.0000	0.0000	∞

$$\sin A = \frac{opp}{hyp} \qquad \cos A = \frac{adj}{hyp} \qquad \tan A = \frac{opp}{adj}$$

Postulates:

Side-Side-Side (SSS)
Two triangles are congruent if the sides of one triangle are congruent to the sides of the other triangle.

Side-Angle-Side (SAS)
Two triangles are congruent if two sides and the included angle of one triangle are congruent to two sides and the included angle of the other triangle.

Angle-Side-Angle (ASA)
Two triangles are congruent if two angles and the included side of one triangle are congruent to two angles and the included side of the other triangle.

Theorems:

If two parallel lines are cut by a transversal, then each pair of alternate exterior angles is congruent.

If two parallel lines are cut by a transversal, then each pair of alternate interior angles is congruent.

If two parallel lines are cut by a transversal, then each pair of corresponding angles is congruent.

If two parallel lines are cut by a transversal, then each pair of interior angles on the same side of the transversal is supplementary.

If two parallel lines are cut by a transversal, then each pair of exterior angles on the same side of the transversal is supplementary.

1   Simplify: $-|7-3|-|-5|$

   A   9

   B   –9

   C   1

   D   –1

**2**   Which of the following algorithms are equivalent?

I   Given two lines, draw a transversal. If the alternate interior angles are equal, then you have the answer you are looking for.

II   Given two lines, compare their slopes. If they are equal, then you have the answer you are looking for.

III   Given two lines, compare their slopes. If they are negative reciprocals, then you have the answer you are looking for.

   A   I and II

   B   II and III

   C   I and III

   D   I, II, and III

3   Twice the product of *t* and *m* is represented by which expression?

   A $2tm$

   B $tm + 2$

   C $\dfrac{2t}{m}$

   D $\dfrac{t}{m}$

4   What is the slope of the line in the figure shown below?
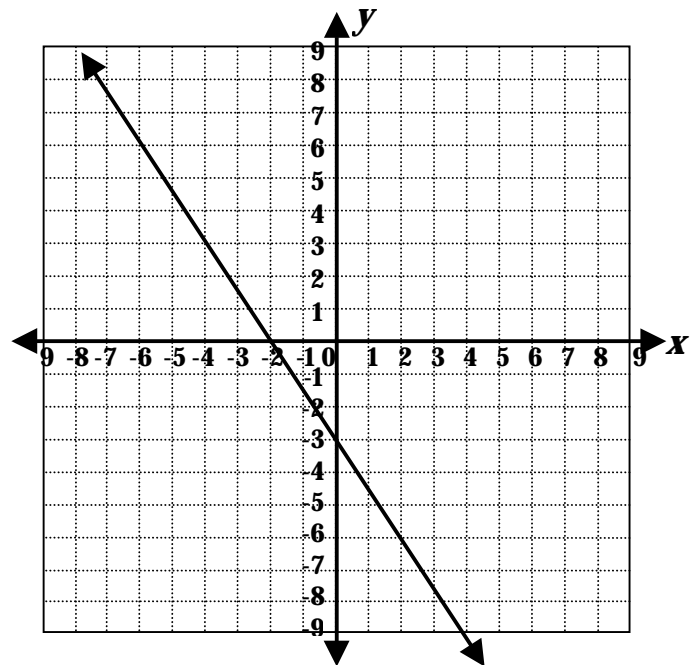
   A $\dfrac{3}{2}$

   B $\dfrac{2}{3}$

   C $-\dfrac{3}{2}$

   D $-\dfrac{2}{3}$
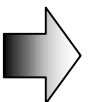
5 What is 93,000,000 written in scientific notation?

   A 93×10^6

   B 93×10^7

   C 9.3×10^7

   D 9.3×10^6

6 Which of the following is the best estimate of $\sqrt{12}$?

   A 2.5

   B 3

   C 3.5

   D 4

---

7 Which of these graphs correctly represents the equation $y = \dfrac{-1}{2}x + 3$?

A

C

B

D

Mathematics Sample Test Items – MA-ST-1

Go On
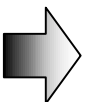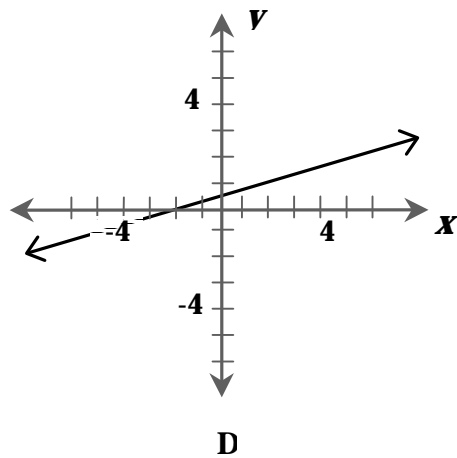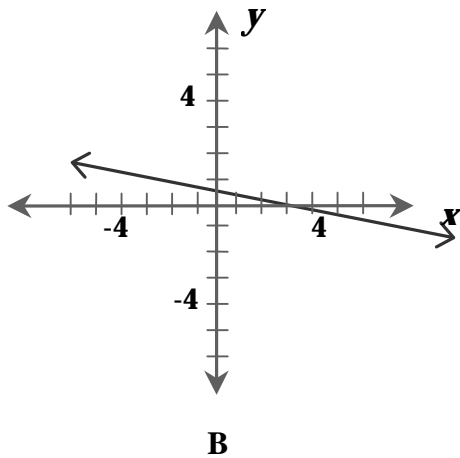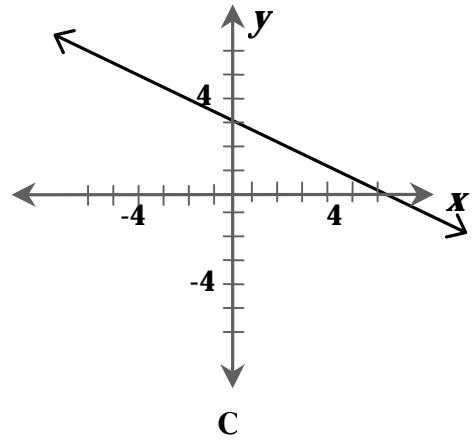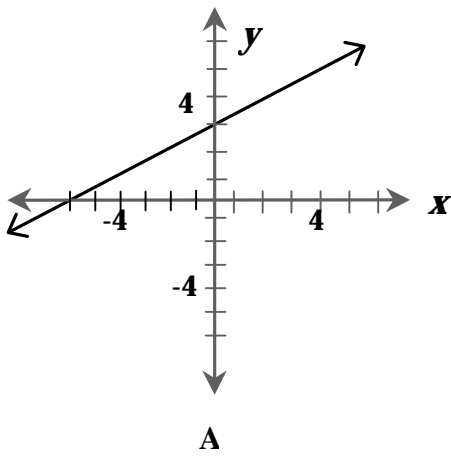
8 Simplify: $(x + 7)(x - 4)$

    A $2x + 3$

    B $x^2 - 28$

    C $x^2 - 3x - 28$

    D $x^2 + 3x - 28$

9 What is the product of $(3xy^2)(2x2y^3)$?

    A $5x^3y^6$

    B $5x^2y^6$

    C $6x^2y^6$

    D $12x^2y^5$

10 Solve: $4(6x - 10) = 8x + 40$

    A 0

    B $\dfrac{5}{2}$

    C $\dfrac{25}{8}$

    D 5

11 Simplify: $\sqrt[3]{125x^3y^6z^9}$

    A $5x^2z^3$

    B $5xy^3z^6$

    C $5xy^2z^3$

    D $25xy^3z^3$

12 A submarine is 285 feet under the surface of the ocean. A helicopter is flying at 4,500 feet above sea level. Given that the helicopter is directly above the submarine, how far apart are they?

    A 285 feet

    B 4,215 feet

    C 4,785 feet

    D 4,500 feet

13 Which of these arguments is valid?

    A Figure ABCD is a rectangle, or figure ABCD is not a rectangle. Therefore, figure ABCD is a trapezoid.

    B All freshmen take Algebra 1. John is taking Algebra 1. Therefore, John is a freshman.

    C All rectangles are parallelograms. Figure ABCD is a parallelogram. Therefore, figure ABCD is a rectangle.

    D The teacher said students could not receive an A in the class unless they got an A on the final exam. Ashley received an A in the class. Therefore, Ashley got an A on the final exam.
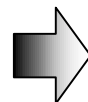
14 The volume of a shipping container is given by the formula below. What is the value of h in terms of the other three variables?

$$V = lwh$$

A $h = V - l - w$

B $h = (l - w)$

C $h = \dfrac{V}{lw}$

D $h = \dfrac{lw}{V}$

15 Examine the graph below which shows the forearm lengths and foot lengths of 18 students in an algebra class.
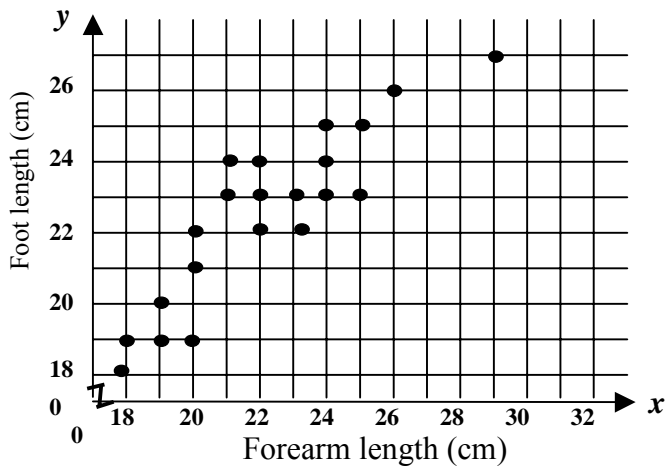
In order to approximate the best fitting line, which two points should be used to create the equation representing this line?

A (18, 18) and (29, 27)

B (23, 22) and (23, 23)

C (21, 23) and (25, 23)

D (19, 20) and (26, 26)

16 Which of these equations represents a line passing through (5, 3) and (-5, -3)?

A $y = \dfrac{3}{5}x$

B $y = \dfrac{5}{3}x$

C $y = 5$

D $y = 3$

17 Dorothy and Simon are going to the movies. They can choose from Movie E, Movie F, and Movie G, but both of them will go to the same movie. What is the sample space for this situation?

A {EE, EF, EG, FE, FF, FG, GE, GF, GG}

B {EF, EG, FE, FG, GE, GF}

C {EE, FF, GG}

D {EF, GE}

18 Which of these statements is true about the graphs of the equations below?
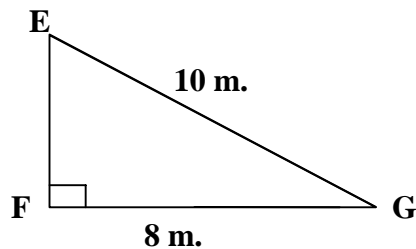
$$y = 2x + 6$$
$$3y = 6x - 6$$

A The lines coincide.

B The lines are parallel.

C The lines are perpendicular.

D The lines intersect, but are not perpendicular.
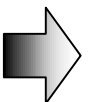
19 Julio is building a ramp for a bike competition. He has two rectangular boards. One board is 10 meters long and the other is 8 meters long. If the ramp has to form a right triangle, what should its height be?


E
10 m.
F
8 m.
G

A $\sqrt{164}$ (or $2\sqrt{82}$ meters)

B 36 meters

C 6 meters

D $\sqrt{6}$ meters

20 The length of a box is 100 inches, the width is 12 inches, and the height is 10 inches. What is the volume of the box?

A 122 cubic inches

B 1,000 cubic inches

C 1,200 cubic inches

D 12,000 cubic inches

21 Which of the following is an example of the use of a census?

A All the students at XYZ High School are asked whether they ride the bus to school.

B All the juniors in a government class are asked their opinion about changing the school mascot.

C All the seniors are asked if they like calculus class.

D All the girls in an algebra class are asked to participate in a survey.

22 Nutritionists often recommend a diet that is low in fat. The table below lists the approximate fat content of some breads and crackers.
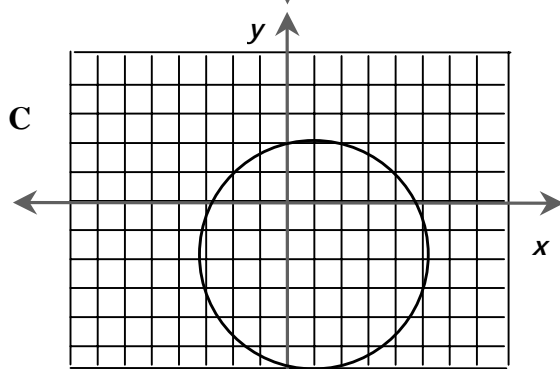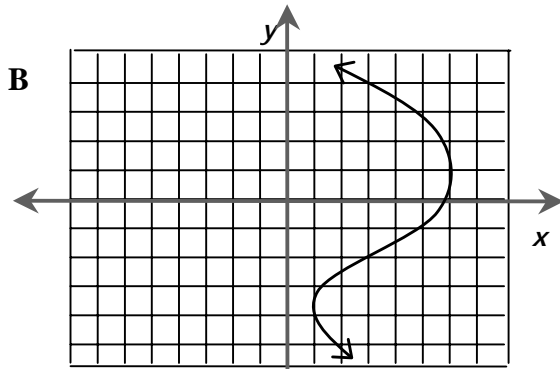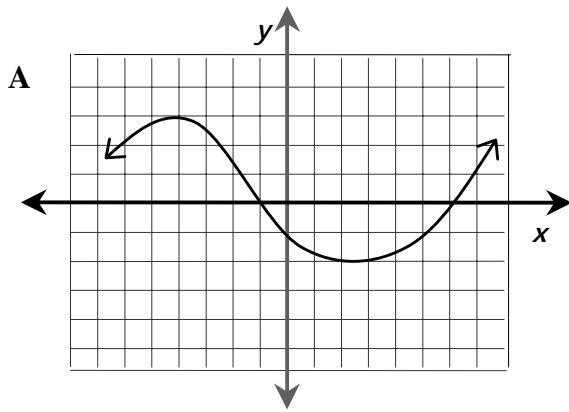
| Breads & Crackers	Fat Content Per Serving* (g)
Cracked wheat bread	0.9
Whole wheat bread	1.1
Pita bread	0.6
Matzo	0.3
Graham cracker	0.5
Corn muffin	4.0
Rice cake	0.3
Tortilla	1.1
Bran muffin	5.1
Pumpernickel	1.1
*Fat content per serving may vary by manufacturer	

What is the median of this data set?

A 0.9

B 1.0

C 1.1

D 1.5
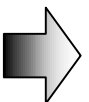
23 Which graph below represents a function?

A

B

C

D
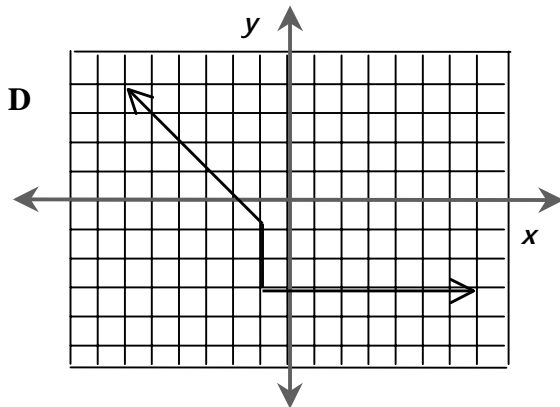
24 Which of the following is a secant of circle P?
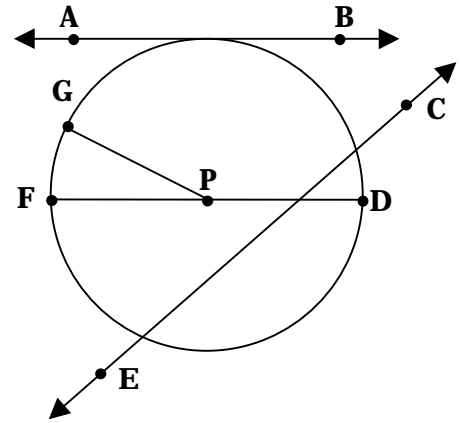
A $\overleftrightarrow{AB}$

B $\overleftrightarrow{CE}$

C $\overline{GP}$

D $\overline{FD}$

25 The graph below shows a bridge between two islands. If point M is the midpoint of $\overline{PQ}$, and $\overline{PM}$ = 6 centimeters, what is the length of $\overline{PQ}$?
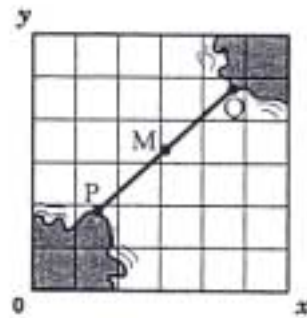
A 3 centimeters

B 6 centimeters

C 9 centimeters

D 12 centimeters
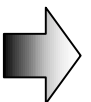
26 Consider the following algorithm:

Step 1   Write the prime factorizations of 120, 192 and 720 using exponents.

$$120 = 2^3 \bullet 3 \bullet 5$$
$$192 = 2^6 \bullet 3$$
$$720 = 2^4 \bullet 3^2 \bullet 5$$

Step 2   Identify any common factors of the prime factorizations.

$$2^3, 3$$

Step 3   Multiply all the common factors, each raised to its respective smallest exponent.

$$2^3 \bullet 3 = 8 \bullet 3 = 24$$

What is the algorithm above used for?

A to find the prime factorizations of 120, 192, and 720

B to find the greatest common factor of 120, 192, and 720

C to find the least common factor of 120, 192, and 720

D to find the least common multiple of 120, 192, and 720

27 According to the plot below, what is the range of water temperatures in which you would expect to find salamanders?
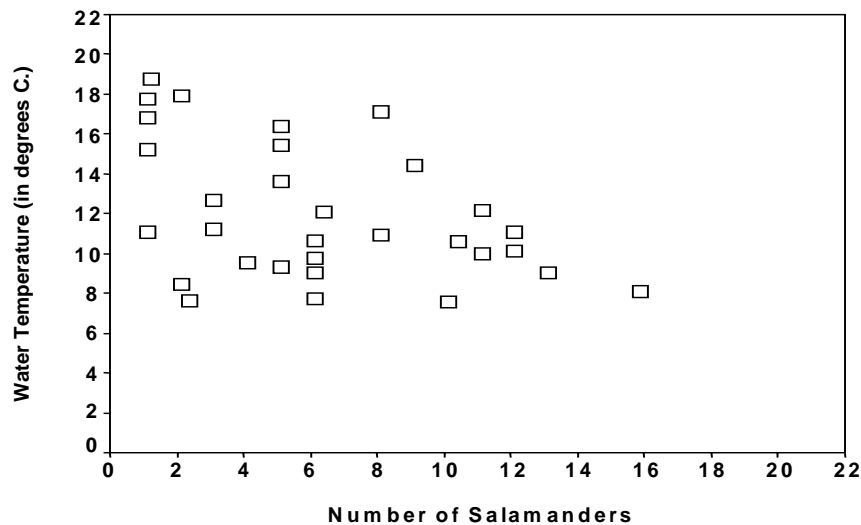
A between 0 and 22 degrees

B between 7 and 19 degrees

C between 0 and 7 degrees

D between 1 and 16 degrees
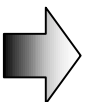
28 Which of the following procedures for finding the slope of the line with equation $2x - 3y = 6$ is valid?

1) Find two points on the line (by substitution)

1st point: let $x = 3$; then
$2(3) - 3y = 6$
$6 - 3y = 6$
$6 - 6 = 3y$
$0 = 3y$, then $y = 0$
Therefore, one point is (3, 0)

2nd point: let $y = 2$; then
$2x - 3(2) = 6$
$2x - 6 = 6$
$2x = 6 + 6$
$2x = 12$; then $x = 6$
Therefore, another point is (6, 2)

Then find the slope:
$m = \dfrac{y_2 - y_1}{x_2 - x_1} = \dfrac{0 - 2}{3 - 6} = \dfrac{-2}{-3}$

The slope, m, is $\dfrac{2}{3}$

2) Transform equation $2x - 3y = 6$ into slope-intercept form
$y = mx + b$

Add $-2x$ to both sides of the equation

$2x + (-2x) - 3y = (-2x) + 6$
Then,
$-3y = -2x + 6$

Divide both sides of the equation by -3

$\dfrac{-3y}{-3} = \dfrac{-2x}{-3} + \dfrac{6}{-3}$

$y = \dfrac{2}{3}x - 2$

The slope, m, is the coefficient of x, $\dfrac{2}{3}$

3) Find two points on the line (by substitution)

1st point: let $x = 3$; then
$2(3) - 3y = 6$
$6 - 3y = 6$
$6 - 6 = 3y$
$0 = 3y$, then $y = 0$
Therefore, one point is (3, 0)

2nd point: let $y = 2$; then
$2x - 3(2) = 6$
$2x - 6 = 6$
$2x = 6 + 6$
$2x = 12$; then $x = 6$
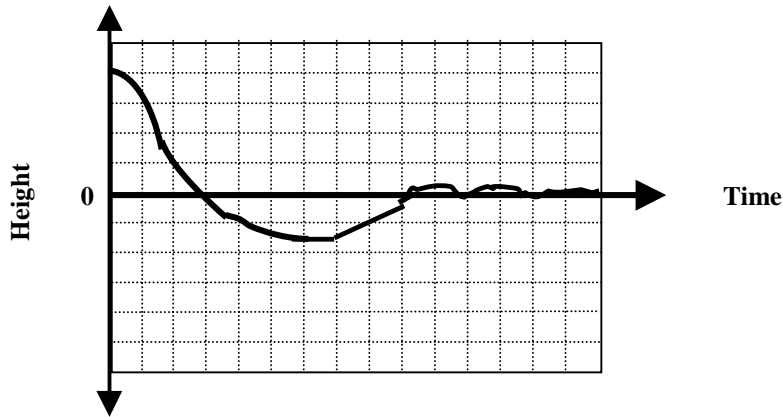Therefore, another point is (6, 2)

Then find the slope:

slope $= \sqrt{(0-2)^2 + (3-6)^2}$
$= \sqrt{(-2)^2 + (-3)^2}$
$= \sqrt{4+9} = \sqrt{13}$

The slope, m, is $\sqrt{13}$

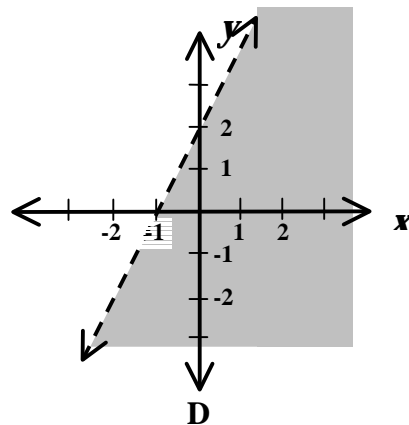**A** 1 only

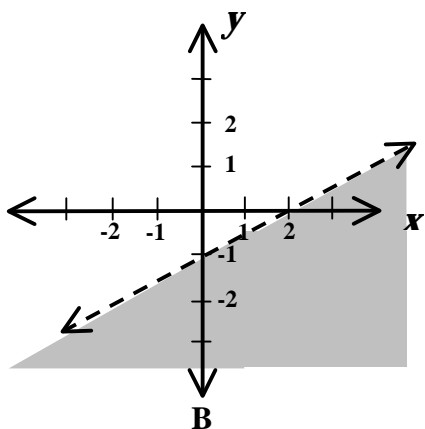**B** 1 and 2 only
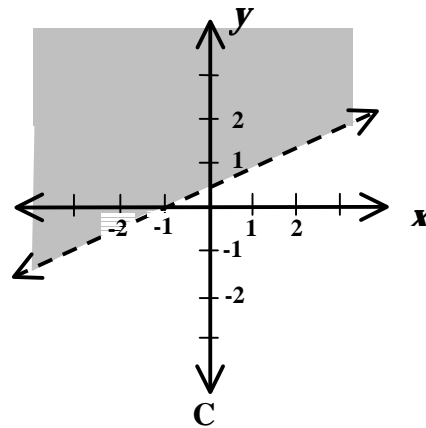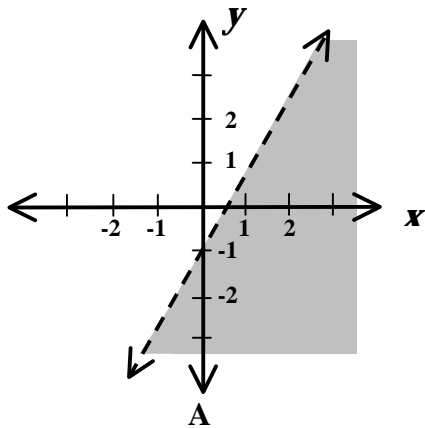
C 3 only

D 1, 2, and 3
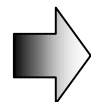
29   The graph depicts a real-world situation. Which of the following situations could it depict?
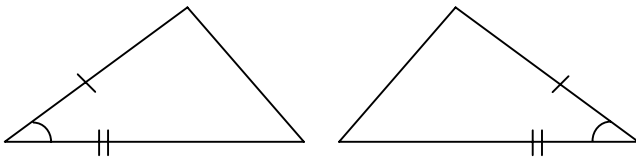

A   A person dove into the water.

B   A person jumped from a tree to the grass below.

C   A plane landed safely.

D   A plan crashed into the runway.

30   Which of these graphs correctly represents the inequality $y < \frac{1}{2}x - 1$?
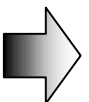
31 Which theorem can be used to prove that the triangles in the figure below are congruent?


    A side-by-side (SSS)

    B side-angle-side (SAS)

    C angle-side-angle (ASA)

    D angle-angle-side (AAS)

32 Which statement is true about the graphs of these equations?

$$y = 2x + 7$$
$$5y = 10x + 35$$

    A The lines coincide.

    B The lines are parallel.

    C The lines are perpendicular.

    D The lines intersect, but are not perpendicular.

33 Aaron used the Pythagorean theorem to find the height of a tree. He calculated that the tree was $\sqrt{625}$ feet tall. Which of the following should be used to write the height of the tree?

    A ± 25 feet

    B   25 feet

    C $- 25$ feet

    D 25^2 feet

34 Which type of transformation is represented by the figures in the graph?
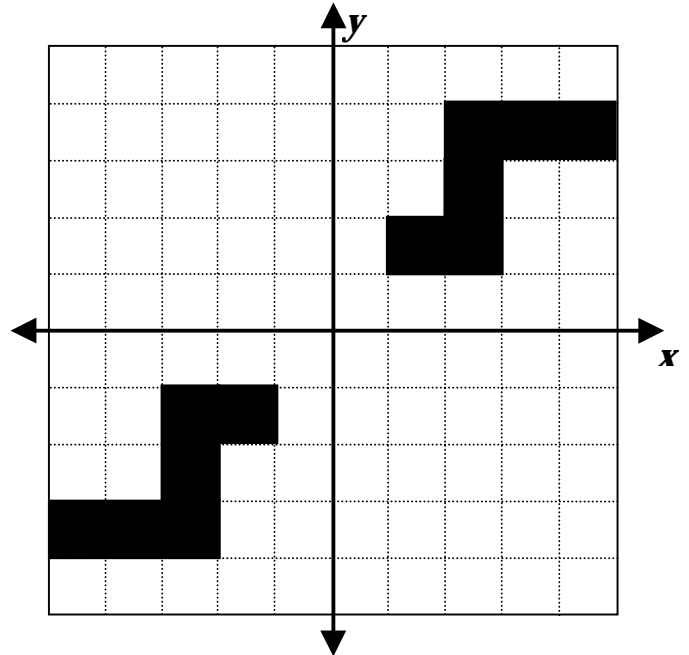


    A reflection and translation

    B reflection

    C rotation

    D dilation and rotation

35 Which of the following transformations produces a figure similar but not congruent to the original one?

    A A transformation that adds $\frac{1}{2}$ to the x-coordinate and subtracts $\frac{1}{2}$ from the y-coordinate of the vertices of a triangle

    B A transformation that adds 2 to the x-coordinate and multiplies by 2 the y-coordinate of the vertices of a triangle

    C A transformation that multiplies by 2 the x and y coordinates of the vertices of a triangle

    D A transformation that adds 2 to the x-coordinate and divides by 2 the y-coordinate of the vertices of a triangle
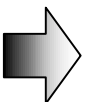
36 If three cubes with sides numbered from 1 through 6 are tossed, what is the probability that either all the cubes land on 3 or that all the cubes land on 4?

A $\dfrac{1}{6^3}$

B $\dfrac{2}{6^3}$

C $\dfrac{3}{6^3}$

D $\dfrac{4}{6^3}$

37 What is the domain of the relation below?
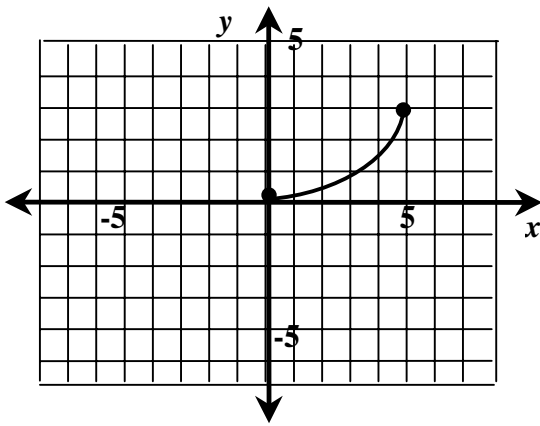
A $y \leq 0$

B $0 \leq x \leq 5$

C $x \leq 0$

D $0 \leq y \leq 3$

38 Which of the following graphs represents a reflection of the figure about the line $x = -1$?

A

B

C

D
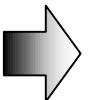
39 Solve for x.
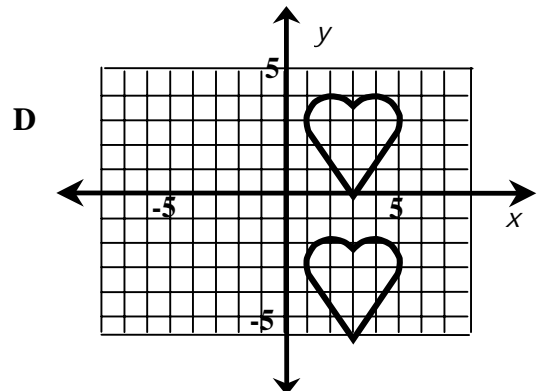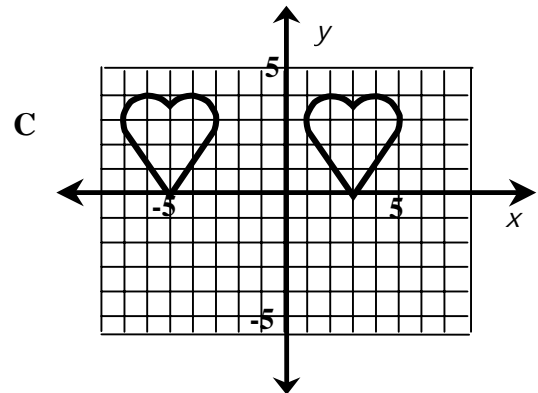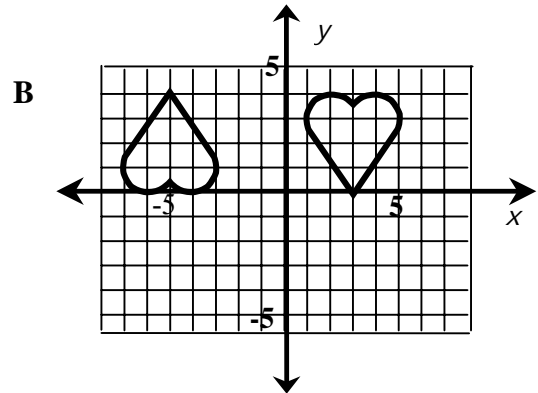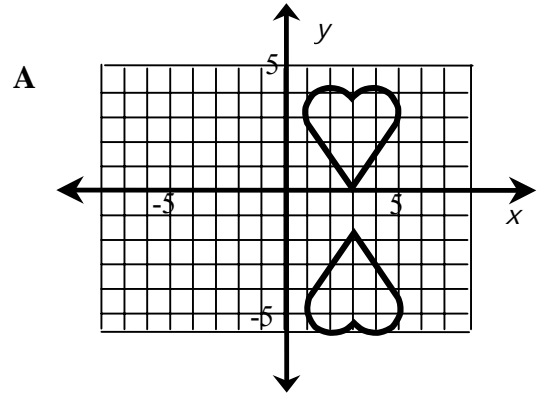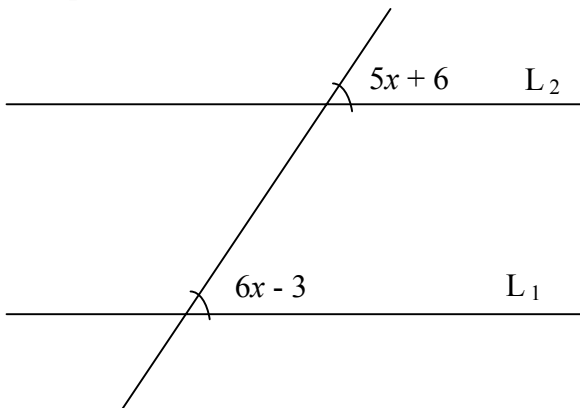
$3x + 7 = 2x$.

A $x = \dfrac{5}{7}$

B $x = -\dfrac{5}{7}$

C $x = -7$

D $x = 7$

40 A tree casts a 20-foot shadow. When Jenna measures a pole that has been inserted vertically into the ground, she finds that it is 5 feet tall and casts a 4-foot shadow the same time of the day. How tall is the tree?

A 100 feet

B 25 feet

C 20 feet

D 16 feet

41 What is the value of x in the figure below if L_1 is parallel to L_2?

$5x + 6$ L_2

$6x - 3$ L_1

A $x = \dfrac{9}{11}$

B $x = 165\frac{9}{11}$

C $x = 9$

D $x = -9$

42 What is the value of x if $\angle L$ and $\angle N$ are the base angles of an isosceles triangle?

M

$\frac{1}{2}x - 59$ $-3x - 31$

L   N
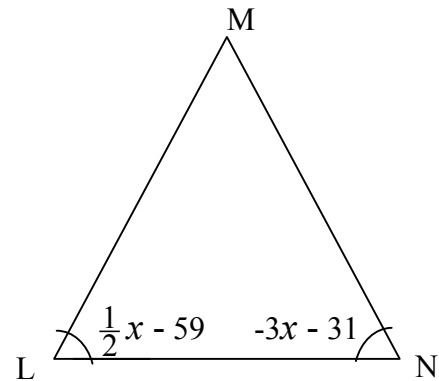
A 8

B 4

C -8

D -4

43 An architect is requiring the pitch of a roof to be at least 7 on 10 on a new house he is building, as shown in the figure below.

7

10
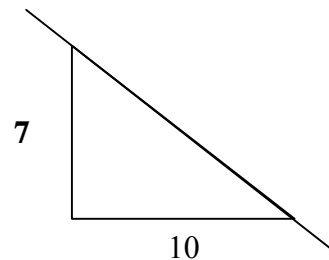
Which of the following roofs is not steep enough?

A A roof with a pitch of 5 on 7.

B A roof with a pitch of 14 on 15.

C A roof with a pitch of 3 on 5.

D A roof with a pitch of 7 on 9.

44 Which of the following is equivalent to the expression

$$2(3x - 2y) + 4y$$

A $6x$

B $6x + 8y$

C $6x - 2y$

D $2xy + 4y$

45 If an angle's measure is between $0°$ and $90°$, then it is an acute angle. Jenny measured the angle made by two walls in her home and found the angle to be $84°$. Which of the following conclusions is most reasonable?

A Jenny needs to measure another angle.

B The angle is a right angle.

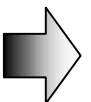**C** The angle is an obtuse angle.

D The angle is an acute angle.

46 Which of these could NOT be classified as the number representing the number of people in a room?

A Rational number

B Integers

C Whole numbers

D Irrational numbers

47 A stick of gum weighs about 6.8 grams. This is approximately 1.87×10^{-1} ounce. Which of the following is another way to express this measure?

A 187 oz

B 0.187 oz

C 18.7 oz

D 1.87 oz

48 The graph below shows the results of investing $100 per month in accounts with two different rates of return. Based on this information, which statement below is true?

8% vs. 10% RATE OF RETURN

A Investing $100 per month in an account that pays 10% rather than 8% will not make any difference until after 25 years.

B A larger rate of return causes the account to grow rapidly at first but then the growth rate slows.

C A small increase in the rate of return makes a significant difference in the growth of the account over 40 years.

D If the graph was to continue to 100 years, the 8% line would catch up to the 10% line.
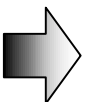
49 Which of the following is the correct equation for the line that crosses the *x*-axis at (3,0) and the *y*-axis at (0,6)?

A $y = 2x + 3$

B $y = 2x + 6$

C $y = -2x + 3$

D $y = -2x + 6$

50 What are all values of *x* for which the inequality $5x + \dfrac{5}{3} \le -2x - \dfrac{2}{3}$ is true?

A $x \le -\dfrac{7}{9}$

B $x \le -\dfrac{1}{3}$

C $x \ge 0$

D $x \ge \dfrac{7}{3}$

51 Simplify: $2x(x^2 + 3xy + 6y^2)$

A $2x^3 + 3xy + 6y^2$

B $2x^3 + 6x^2y + 12xy^2$

C $2x^2 + 6xy + 12y^2$

D $2x^2 + 6x^2y + 12xy^2$

52 Bob is making a long-distance phone call from Cordes Junction to his friend in Cedar Springs. The telephone company says the call will cost $1.25 for the first minute and $0.75 for each additional minute. If Bob and his friend talk for *m* minutes, how much will the call cost?

A $0.75 + 1.25m$

B $1.25 + 0.75(m - 1)$

C $0.75 + 1.25(m - 1)$

D $1.25 + 0.75m$

53 Which of the following lines passes through the points in the table?

x	y
0	4
2	0
3	-2

A

C

B

D
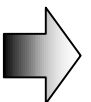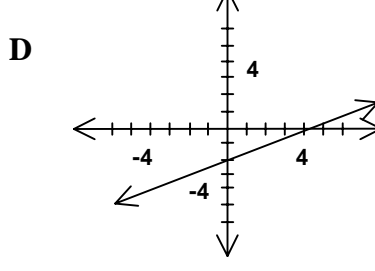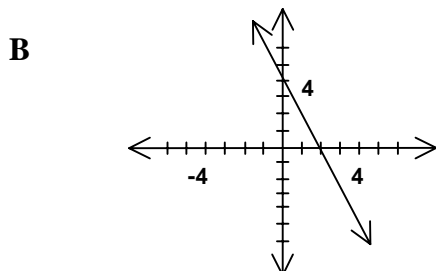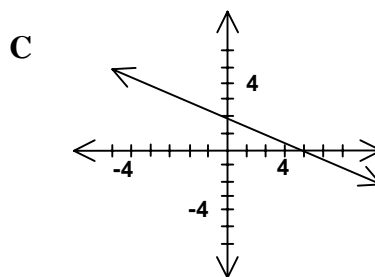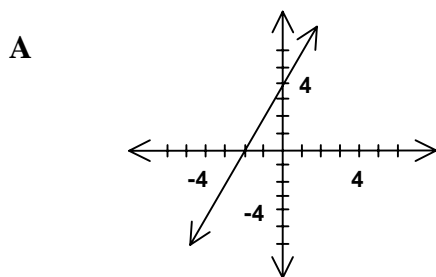
54 Which of the following algorithms are equivalent?

   I   Given a list of 25 numbers, put them in ascending order. Entry 13 is the number you are looking for.

  II   Given a list of 25 numbers, put them in descending order. Entry 13 is the number you are looking for.

 III   Given a list of 25 numbers, put them in ascending order. Entry 25 is the number you are looking for.

 IV   Given a list of 25 numbers, put them in descending order. Entry 25 is the number you are looking for.

A I and II only

B III and IV only

C I and IV only

D I, II, III, and IV

55 The graph depicts a real-world situation. Which of the following situations could it depict?
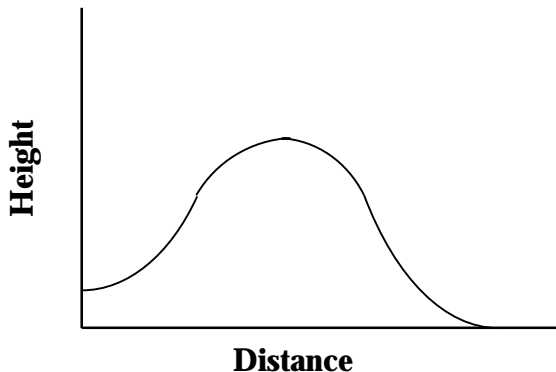
A a person diving into a pool

B a thrown discus at a track meet

C a plucked guitar string

D a car braking to a stop

56 Look at the sequence of numbers below.

$$-\frac{7}{4}, \ -\frac{10}{4}, \ -\frac{13}{4}, \ -4, \ -\frac{19}{4}, \ldots$$

What is the rule to determine the next term in the sequence?

A Add the previous two terms.

B Multiply the last term by $-\frac{3}{4}$.

C Add $-\frac{3}{4}$ to the last term.

D Multiply the previous two terms.
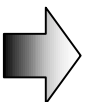
57 What is the relationship between average test scores and days absent from school shown in the plot below?

Test Scores versus Days Absent
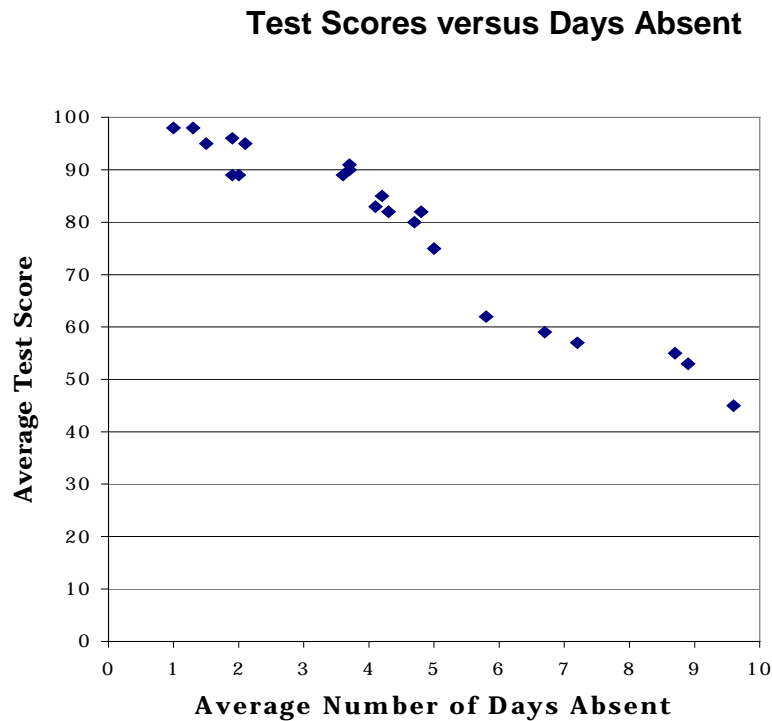
A Test scores are equal to the number of days absent from school.

B There is a positive correlation between test scores and days absent.

C There is a negative correlation between test scores and days absent.

D There is no relationship between test scores and days absent.

58 Six students are sitting in chairs placed in a line. In how many different orders can the students be seated?

A 720

B 36

C 12

D 7
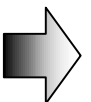
59 Which solid does this net represent?
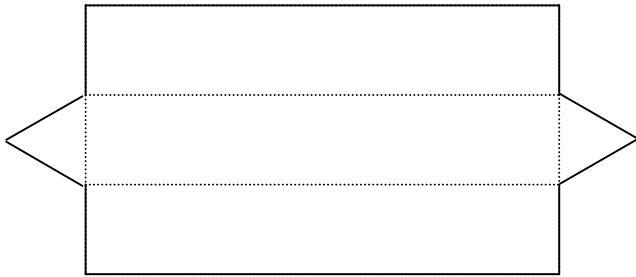
A triangular prism
B cone
C triangular pyramid
D square pyramid

60 Scot was interested in buying a car and one of the considerations he had was the cost of car repairs for the vehicle in which he was interested. The cost of car repairs for a vehicle is shown in the box-and-whiskers graph below.

Costs of Car Repairs (dollars)
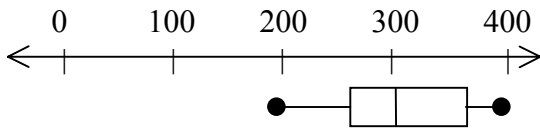
Car A

About what percent of the repairs of this vehicle cost more than $300?

A 20%
B 25%
C 50%
D 100%

61 Sean drove for 6 hours from his home to his aunt's house near Seligman. He averaged between 55 miles per hour and 75 miles per hour. Which of the following is a reasonable total distance that he drove on this trip?

A 300
B 390
C 450
D 500

62 Which of the following linear equations is derived from the table of values below?

x	y
-3	8
0	4
3	0

A $y = -\frac{3}{4}x + 3$

B $y = -\frac{3}{4}x - 3$

C $y = -\frac{4}{3}x + 4$

D $y = -\frac{4}{3} - 4$

63 Under which transformation will the image be a different size than the original figure?

A reflection
B translation
C rotation
D dilation
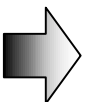
64 In the equation below, what is the value of y when $x = -2$?

$$-12\,x^2 + 17x + 5 = y$$

A 19

B -5

C -9

D -77

65 At Norwood High School, a student is assigned to a gym class based on the following information:

Days: M, W, or F
Sessions: Morning, Noon, or Afternoon
Places: Gym A or Gym B

How many different outcomes for choosing a gym class are there?

A 8

B 15

C 18

D 25

ANSWER KEY

Item #	Key	Standard*	Description
1	B	30606	Evaluate numerical and absolute value expressions
2	A	50303	Determine whether given algorithms are equivalent
3	A	30801	Translate and generate math expressions
4	C	30403	Determine slope and intercepts of linear equation
5	C	10208	Convert standard notation to scientific notation
6	C	10201	Rational estimate of an irrational number
7	C	30401	Graph a linear equation in two variables
8	D	30603	Simplify algebraic exp. using distributive property
9	D	30607	Multiply/divide monomials
10	D	30609	Solve linear equations, inequalities in 1 variable
11	C	30604	Simplify square/cube roots – perfect square/cube
12	C	10203	Solve real-world problems/absolute value
13	D	60203	Distinguish valid/invalid arguments
14	C	30610	Solve formulas for specified variables
15	D	20301	Fit line to a scatterplot
16	A	30404	Determine equation of line through 2 points
17	C	50401	Find outcome set of a situation
18	B	40501	Compare geometric lines given algebraic equations
19	C	40203	Solve problems using Pythagorean theorem
20	D	40201	Calculate area, volume
21	A	20401	Differentiate between sampling and census
22	B	21101	Concepts of mean, median, mode/draw conclusions
23	A	30203	Determine function given graphical representations
24	B	40402	Identify circle parts
25	D	40206	Calculate midpoint, distance between points
26	B	50302	Determine the purpose of algorithm
27	B	21101	Concepts of mean, median, mode/draw conclusions
28	B	60502	Equation solving: valid procedures
29	A	30102	Describe situation given graph
30	B	30402	Graph a linear inequality in two variables
31	B	40403	State valid conclusions using postulates, theorems
32	A	40501	Compare geometric lines given algebraic equations
33	B	10207	Choose appropriate number form
34	C	40602	Determine characteristics of transformations
35	C	40601	Classify transformations–congruent/non-congruent
36	B	50402	Probability a specific event will happen
37	B	30902	Determine range and domain of a relation
38	C	40304	Identify result of a given transformation
39	C	30609	Solve linear single variable equations
40	B	40204	Solve using congruence & similarity/triangles

Table continued on next page

Item #	Key	Standard*	Description
41	C	40208	Solve using comp/supp/congruent angles
42	A	40202	Solve using triangle side length/angle/tri. inequal.
43	C	40401	Similarities/differences with geometric figures
44	A	60501	Determine if equivalent/algebraic forms
45	D	60202	Draw valid conclusion from *if...then* statement
46	D	10101	Classify numbers as members of the sets
47	B	10208	Convert standard notation to scientific notation
48	C	20104	Eval. reasonableness/concl'ns from data analysis
49	D	30404	Write an equation of a line given two points
50	B	30609	Solve linear eqn's and inequalities in one variable
51	B	30603	Simplify algebraic expressions
52	B	30801	Translate verbal expressions to math expressions
53	B	30702	Create a graph from a table of values
54	A	50303	Determine whether given algorithms are equivalent
55	B	30102	Describe real-world situation depicted by a graph
56	C	60102	Produce valid conjecture using inductive reasoning
57	C	21103	Pos/neg correlation from a graph
58	A	50404	Determine no. possible outcomes/count. principle
59	A	40103	Identify 3-D figure represented by ...net
60	C	20105	Use mean, median, mode, range, quartiles/analyze
61	B	10204	Determine reasonable solution
62	C	30701	Create a linear equation from a table of values
63	D	40303	Determine effects of transformation on original fig.
64	D	30602	Evaluate algebraic expressions using substitution
65	C	50404	Determine # of possible outcomes -count. principle

*This code references the Arizona Academic Standards document, which can be found on our web site, www.ade.az.gov/standards. The referenced standard number represents the standard, the concept and the performance objective.

Example, 30903 represents Standard 3 (3), Concept 9 (09), and performance objective 3 (03).