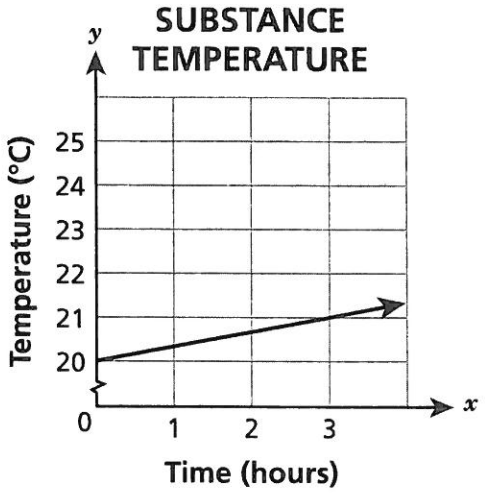
Name _____

EE

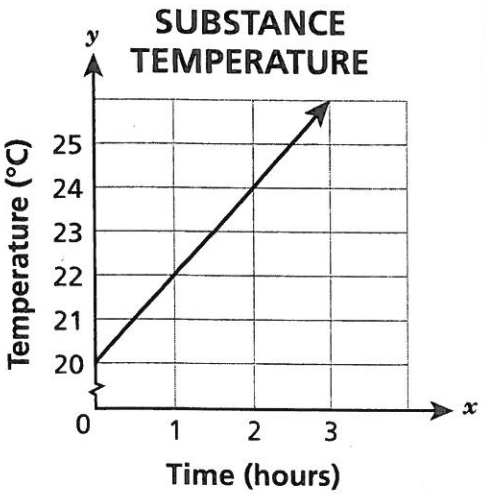
144080020_4

29 During an experiment, the temperature of a substance increased at a constant rate of three degrees Celsius (°C) per hour. Which graph represents this relationship?

A



C



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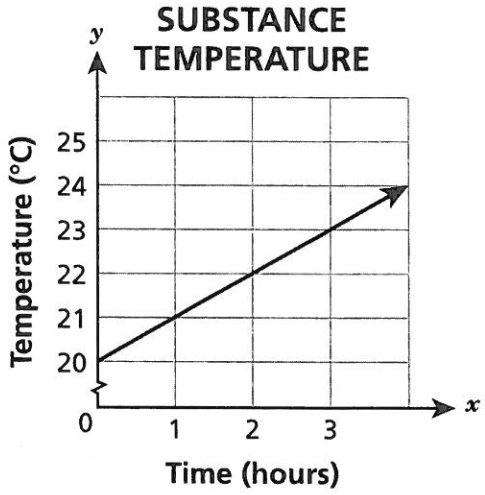
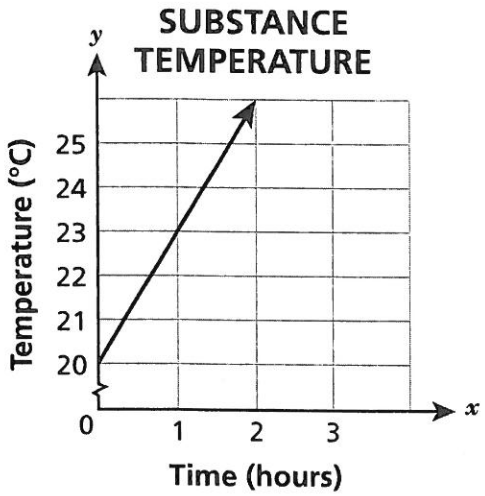


D



134080406_2

35 A line contains the points (4, 2) and (0, −1). What is the equation of the line?

A $y = 2x - 6$

B $y = \frac{3}{4}x - 1$

C $y = \frac{1}{4}x + 1$

D $y = \frac{4}{3}x - \frac{10}{3}$

EE

134080031_1

36 A system of equations is shown below.

$$5x + 3y = -6$$
$$2x + y = -4$$

Which statement about the ordered pair $(-6, 8)$ is true?

A It is the only solution to the system.

B It is not a solution to either equation.

C It is one of many solutions to the system.

D It is a solution to the first but not the second equation.

144080025_2

38 What is the equation of the line that passes through point (4, 12) and has a y-intercept of -2?

A $y = \frac{5}{2}x - 2$

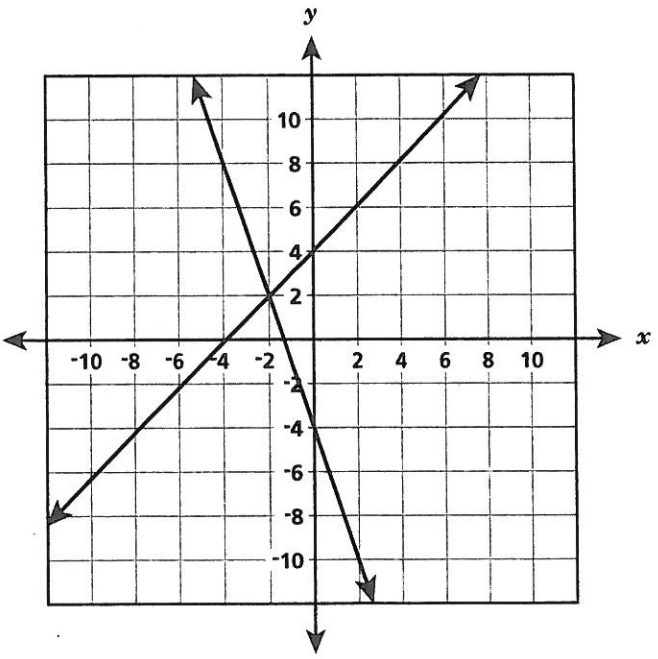
B $y = \frac{7}{2}x - 2$

C $y = 2x - 2$

D $y = 6x - 2$

144080038_3

49 Which statement explains why the point $(-2, 2)$ is the solution to the system of linear equations shown below?



A It lies on the graph of only one of the equations.

B It lies in the second quadrant of the coordinate plane.

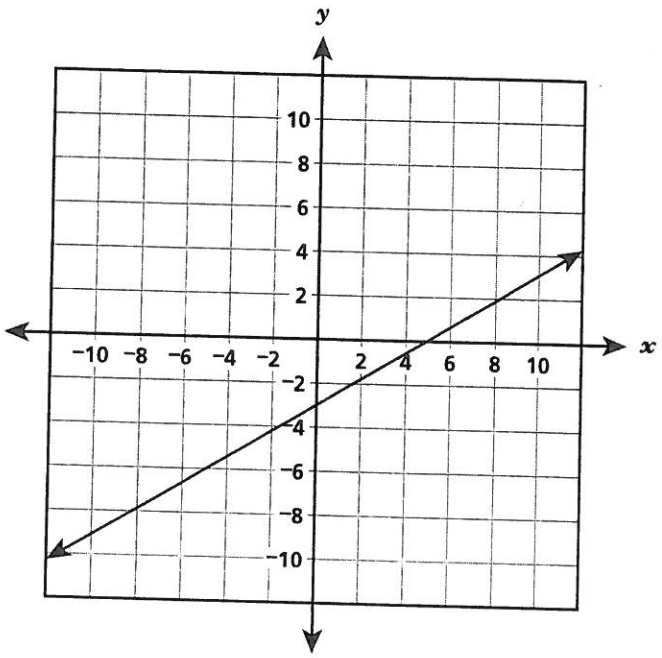
C It is the only point that satisfies both equations simultaneously.

D It is one of many points that satisfies both equations simultaneously.

F

134080412_1

45 Function 1 is defined by the equation $y = \frac{3}{4}x + 1$, and function 2 is represented by the graph below.



Which statement about the functions is true?

A Function 1 has the greater rate of change and the greater *y*-intercept.

B Function 2 has the greater rate of change and the greater *y*-intercept.

C Function 1 has the greater rate of change, and function 2 has the greater *y*-intercept.

D Function 2 has the greater rate of change, and function 1 has the greater *y*-intercept.

144080111_4

53 The winning time for the men's 400-meter race in each of the Olympic Games from 1976 to 1996 can be modeled by the equation $y = -0.054x + 44.54$, where x is the number of years after 1976 and y is the winning time in seconds. If the relationship continues, which equation could be used to predict the winning time in the year 2020?

A $y = -0.054(1976) + 44.54$

B $y = -0.054(2020) + 44.54$

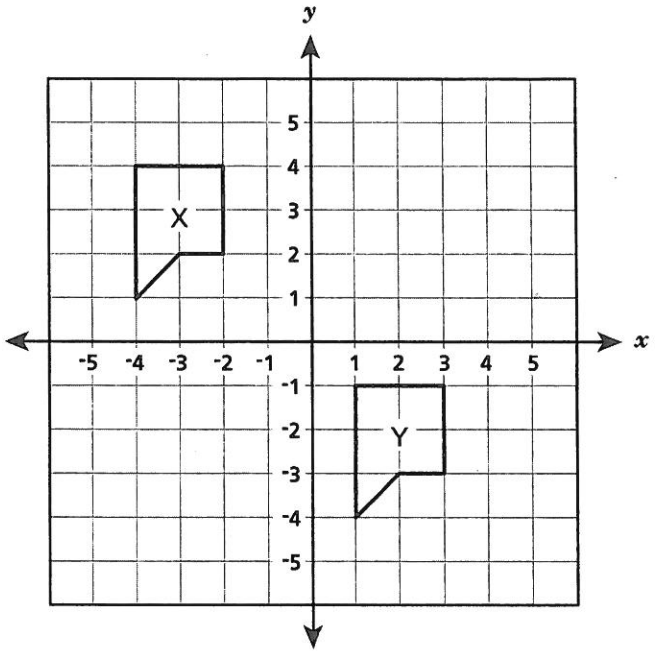
C $y = -0.054(24) + 44.54$

D $y = -0.054(44) + 44.54$

Name _____ G

144080075_1

26 Figure X and figure Y are shown on the coordinate grid below.



Which statement about figures X and Y **must** be true?

A A series of translations will transform figure X to figure Y, and the figures will be congruent.

B A 180° clockwise rotation will transform figure X to figure Y, and the figures will be congruent.

C A series of translations will transform figure X to figure Y, but the figures will not be congruent.

D A 180° clockwise rotation will transform figure X to figure Y, but the figures will not be congruent.

144080098_2

30 A cone has a radius of 1.2 inches and a height of 2.9 inches. What is the volume, to the nearest tenth of a cubic inch, of the cone?

A 3.6

B 4.4

C 10.6

D 13.1

G

134070027_3

42 A solid object was sliced to form two new objects. Each of the two new objects had a circular base. Which shape could **not** have been the original object?

A cone

B cylinder

C prism

D sphere

144080099_3

46 A cylinder has a diameter of 14 centimeters and a volume of 112π cubic centimeters. What is the height, in centimeters, of the cylinder?

A 16

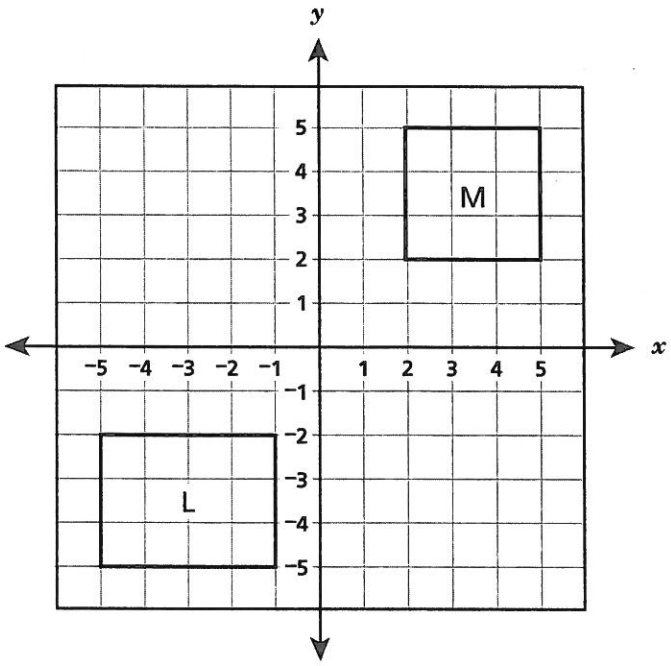
B 4

C $\frac{16}{7}$

D $\frac{4}{7}$

134080065_3

47 Figure L and figure M are shown on the grid below.



Maria wants to transform figure L to figure M using only rotations, reflections, and translations. Which statement is true?

A The transformation can be done with a reflection followed by a rotation.

B The transformation can be done with a reflection followed by a translation.

C The transformation cannot be done because figure L is not congruent to figure M.

D The transformation cannot be done because figures L and M are in different quadrants.

144080097_3

54 An above-ground swimming pool in the shape of a cylinder has a diameter of 18 feet and a height of 4.5 feet. If the pool is filled with water to 6 inches from the top of the pool, what is the volume, to the nearest cubic foot, of the water in the pool?

A 226

B 452

C 1,018

D 4,072