Mathematics

1 Yvonne's age, in years, is represented by y. Rebekah's age is one year less than three times Yvonne's age.
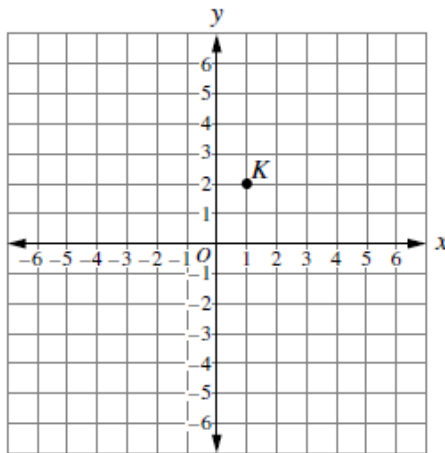
Which expression represents Rebekah's age, in years?

Select one answer.

A $3y - 1$

B $1 - 3y$

C $3(y - 1)$

D $3(1 - y)$

2 Point K is located at $(1, 2)$ on the following coordinate plane. A square that has a perimeter of 20 units will be drawn so that K is one vertex of the square.

Which **three** ordered pairs could represent the location of another vertex of the square?

Select the **three** correct answers.

A $(-4, 2)$

B $(1, -3)$

C $(1, 6)$

D $(4, 2)$

E $(6, 2)$

Mathematics

3 The table shows several values of x and y.

x	y
1	6
3	8
4	9

A student claims that since each value for y is 5 more than the corresponding value of x, that the ratio of y to x is 5 to 1 for the values in the tables.

Which statement **best** explains whether the student's claim is correct or incorrect?

A The student's claim is correct because $6 - 1 = 5$, $8 - 3 = 5$, and $9 - 4 = 5$.

B The student's claim is incorrect because the ratio of y to x is different for each pair of corresponding x- and y-values.

C The student's claim is incorrect because the ratio of y to x is 1 to 5 for each pair of corresponding x- and y-values.

D The student's claim is incorrect because the ratio between the x-values and the y-values of the first two points is 2 to 1 and not 5 to 1.

4 Many frames are being made to hold a number of paintings that all have a width of 18 inches. The wood being used to make the frames is 2 inches wide.
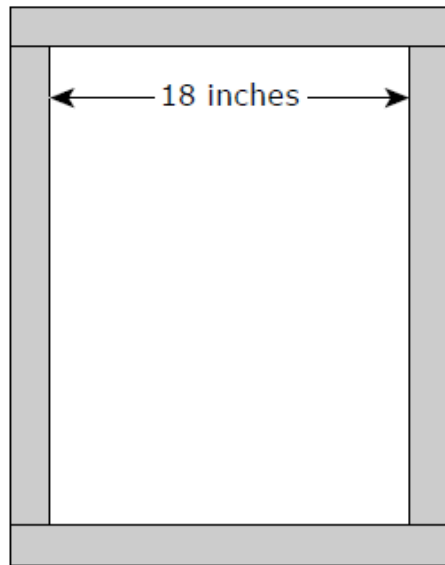
- If the height of one of the paintings was 24 inches, what is the total length, in inches, of 2-inch wood that would be needed to make the frame? Show your work and your calculations.
- What is the number of square inches of wood that a frame would have if the painting had a height of 36 inches?

Enter your answer and your work in the space provided.

Mathematics

5 The equation $x + 5 = 12$ can be solved using one step.

Which statement provides a correct explanation and solution to the equation?

A The number 5 should be added to both sides of the equation, and the solution is $x = 17$.

B The number 5 should be subtracted from both sides of the equation, and the solution is $x = 7$.

C The number 5 should be divided from both sides of the equation, and the solution is $x = \dfrac{12}{5}$.

D The number 5 should be multiplied to both sides of the equation, and the solution is $x = 60$.

6 A machine at a company makes toy cars at a constant rate. The company received an order for toy cars that exceeded the number of toy cars that the company had in stock.

Which **three** pieces of information are needed to determine the amount of time it will take the machine to make enough additional toy cars to fill the order?

Select the **three** pieces of information that are needed.

A the cost to make each toy car

B the rate that the machine makes toy cars

C the number of toy cars requested in the order

D the number of people needed to run the machine

E the number of toy cars available when the order was received

Mathematics

7 A game designer used 9 ounces of clay to make 24 identical pieces for a game.

What is the number of ounces of clay that were used for each piece?

A $\dfrac{3}{8}$

B $\dfrac{5}{8}$

C $\dfrac{8}{5}$

D $\dfrac{8}{3}$

Answers

Section 4

Item Number	Answer Key
1.	A
2.	A, B, E
3.	B
4.	**Sample Top Score Response** The length of 2-inch wood needed is $2(18+2+2)+2(24)=92$ inches. The areas of the top and bottom pieces are each $2 \times 22 = 44$ square inches. The areas of the side pieces are each $2 \times 36 = 72$ square inches. The total area is $44 + 44 + 72 + 72 = 232$ square inches. **Refer to the Holistic Rubric for 4-Point Modeling Constructed Response Items for score point information.**
5.	B
6.	B, C, E
7.	A