**1** A recipe requires 2 cups of cheese for every 8 ounces of noodles. Which table represents the ratio of cheese to noodles for this recipe?

**A**

**RECIPE**

| Cheese (cups) | Noodles (ounces) |
|---|---|
| 2 | 8 |
| 3 | 9 |
| 4 | 10 |
| 5 | 11 |

**B**

**RECIPE**

| Cheese (cups) | Noodles (ounces) |
|---|---|
| 2 | 8 |
| 4 | 16 |
| 6 | 24 |
| 8 | 32 |

**C**

**RECIPE**

| Cheese (cups) | Noodles (ounces) |
|---|---|
| 8 | 2 |
| 9 | 3 |
| 10 | 4 |
| 11 | 5 |

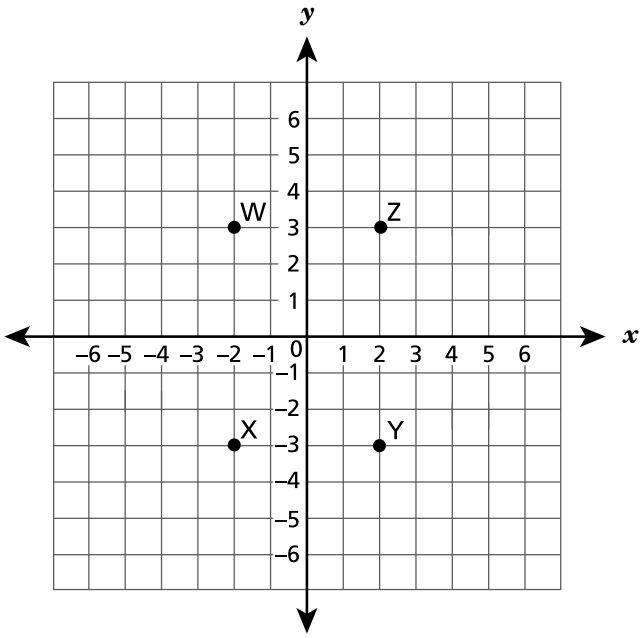
**D**

**RECIPE**

| Cheese (cups) | Noodles (ounces) |
|---|---|
| 8 | 2 |
| 16 | 4 |
| 24 | 6 |
| 32 | 8 |

***GO ON***

**3** Points W, X, Y, and Z are plotted on the coordinate plane shown below.




Which point is located at $(-2, 3)$ ?

**A** point W

**B** point X

**C** point Y

**D** point Z

**5** What is the value of the expression shown below when $c = 2$ and $h = 3$ ?

$$c^3 + 4h - 7$$

**A** $11$

**B** $13$

**C** $42$

**D** $44$

**6** A carton contains $4\frac{1}{2}$ cups of ice cream. One full serving is $\frac{3}{4}$ cup. What is the total number of full servings of ice cream in the carton?

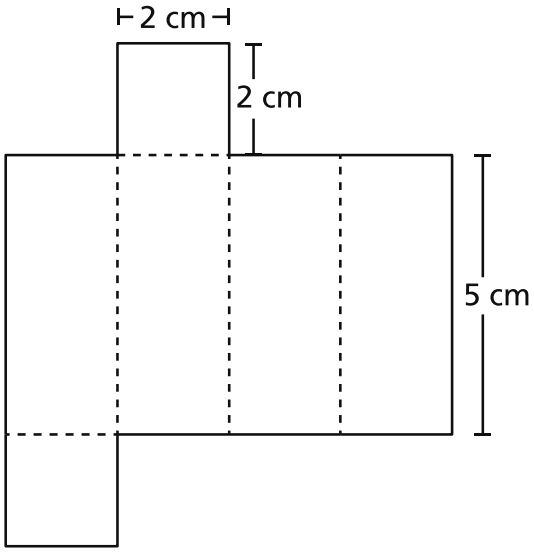
**A** $3\frac{3}{4}$

**B** $5\frac{1}{4}$

**C** $6$

**D** $12$

**13** The net of a right rectangular prism is shown below.




What is the surface area, in square centimeters, of this prism?

**A** 20

**B** 34

**C** 40

**D** 48

***GO ON***

**16** An office has two copiers. Copier A prints 350 pages in 7 minutes. Copier B prints 210 pages in 3 minutes. How many more pages can Copier B print in 1 minute than Copier A ?

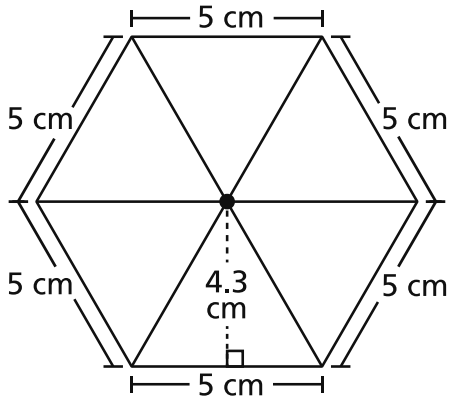
**A** 20

**B** 35

**C** 50

**D** 70

**17** A regular hexagon is made of equilateral triangles, as shown below.




What is the area, in square centimeters, of the regular hexagon?

**A** 10.75

**B** 21.5

**C** 34.3

**D** 64.5

***GO ON***

**19** What is the value of the expression shown below?

$$\frac{(3^2 + 5 \cdot 3)}{2^3}$$

**A** $3$

**B** $3\frac{1}{2}$

**C** $4$

**D** $5\frac{1}{4}$

**21** A teacher asks 50 sixth grade students to vote for their favorite hobby. The table below shows the results.

**FAVORITE HOBBIES**

| Hobby | Number of Students |
|---|---|
| Reading | 12 |
| Playing a musical instrument | 11 |
| Watching movies | 9 |
| Playing sports | 18 |

What percent of the students voted for either playing a musical instrument or reading as their favorite hobby?

**A** 12%

**B** 23%

**C** 46%

**D** 54%

***GO ON***

**23** What is the coefficient in the expression $2x^3$ ?

**A** $2$

**B** $3$

**C** $x$

**D** $2x$

**27** Which number is **not** a solution to the inequality shown below?

$$3w \geq 12$$

**A** 3

**B** 4

**C** 5

**D** 8

***GO ON***

**28** A school club includes students from four grade levels. The number of students from each grade level is shown in the list below.

- 12 students from Grade 5
- 6 students from Grade 6
- 2 students from Grade 7
- 8 students from Grade 8

What is the ratio of the total number of students in the club from Grades 5 and 6 to the total number of students in the club from Grades 7 and 8 ?

**A** 2 : 1

**B** 3 : 1

**C** 5 : 9

**D** 9 : 5

**30** Which expression represents the phrase "the sum of fifteen and five less than twice a number, $n$" ?

**A** $15(5 - 2n)$

**B** $15(2n - 5)$

**C** $15 + (5 - 2n)$

**D** $15 + (2n - 5)$

**STOP**

**31** Tyrone deposits $\$65$ into his bank account. The next day he withdraws $\$20$. Which two integers represent the activity in Tyrone's bank account?

**A** $-65$ and $-20$

**B** $-65$ and $20$

**C** $65$ and $-20$

**D** $65$ and $20$

**32** Mary rides her bike at an average speed of 12 miles in 1 hour. Riding at this rate, how many feet does Mary ride in 1 minute?

**A** 1,056

**B** 26,400

**C** 63,360

**D** 3,801,600

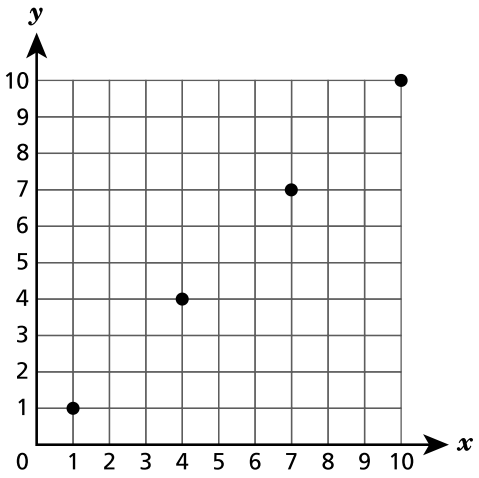
***GO ON***

**33** The two rules shown below are used to generate sets of ordered pairs. The starting point is $(1, 1)$. The ordered pairs are then graphed on a coordinate plane.

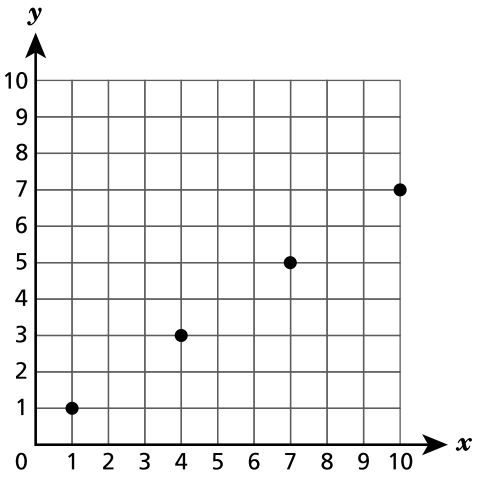
- Rule for $x$ coordinate: Each value is $3$ more than the one before it.
- Rule for $y$ coordinate: Each value is $2$ more than the one before it.

Which graph shows the set of ordered pairs?

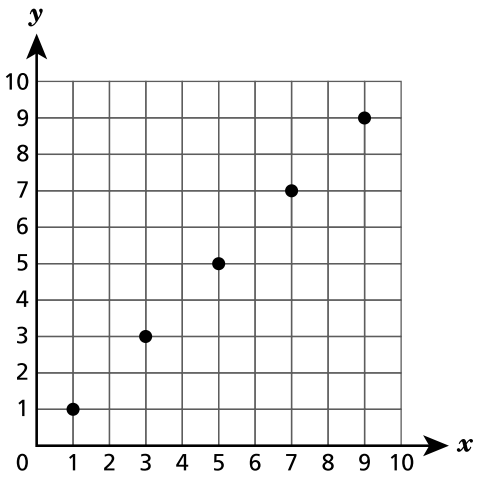
A



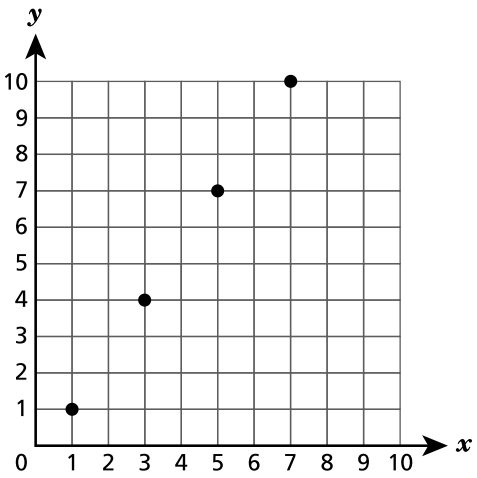

C




B




D



**34** A gift box is in the shape of a right rectangular prism. The gift box is $7\frac{3}{5}$ centimeters long, $5\frac{4}{5}$ centimeters wide, and $2\frac{1}{2}$ centimeters high. What is the volume, in cubic centimeters, of the gift box?

**A** $15\frac{9}{10}$

**B** $70\frac{6}{25}$

**C** $110\frac{1}{5}$

**D** $155\frac{8}{50}$

**35** Hannah buys oranges and apples from the grocery store. She pays \$6.25 for 5 pounds of oranges and \$6.90 for 6 pounds of apples. Which statement about the fruit is true?

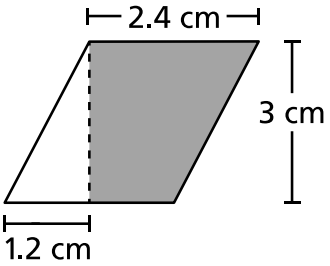
**A** Apples have the greater unit price at \$1.15.

**B** Apples have the greater unit price at \$1.25.

**C** Oranges have the greater unit price at \$1.15.

**D** Oranges have the greater unit price at \$1.25.

**36** The figure below shows a parallelogram with part of it shaded.




What is the area, in square centimeters, of the part of the parallelogram that is shaded?

**A** 3.6

**B** 5.4

**C** 4.32

**D** 8.64

**37** **This question is worth 1 credit.**

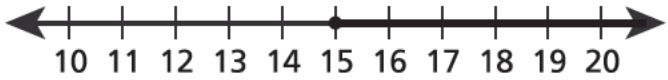
Mr. Kamski has 6 students in his class who play an instrument. These students represent 24% of the total number of students in his class. What is the total number of students in his class?

***Answer*** _____ students

***GO ON***

38 **This question is worth 1 credit.**

The solution set for an inequality is represented on the number line shown below.




Using the variable *x*, write an inequality that describes the solution set represented on the number line.

*Answer* _____

**39** **This question is worth 1 credit.**

What is the greatest common factor of 72 and 96 ?

***Answer*** _____

***GO ON***

**40** **This question is worth 2 credits.**

What is the value of the expression $4(3 + 5^2) - 6$ ?

***Show your work.***

***Answer*** _____

***GO ON***

**41** **This question is worth 2 credits.**

A restaurant buys cheese in large blocks. The table below shows the relationship between the number of blocks of cheese, *b*, that they buy, and the total amount paid, *t*, in dollars.

**CHEESE PRICES**

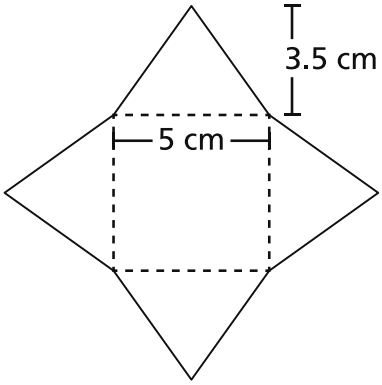
| Amount of Cheese, *b* (blocks) | Total Price, *t* (dollars) |
|---|---|
| 2 | 112 |
| 4 | 224 |
| 6 | 336 |
| 8 | 448 |

Based on the data in the table, write an equation to represent the total price, *t*, in terms of the number of blocks of cheese bought, *b*. Be sure to identify the independent and dependent variables in your explanation.

***Explain your answer.***

**42** **This question is worth 2 credits.**

The net of a right square pyramid is shown below.




What is the surface area, in square centimeters, of the pyramid?

***Show your work.***

***Answer*** _____ square centimeters

**43** **This question is worth 2 credits.**

The top of a rectangular table has a width of $3\frac{1}{3}$ feet and an area of $21\frac{2}{3}$ square feet.

What is the length, in feet, of the top of the table?

***Show your work.***

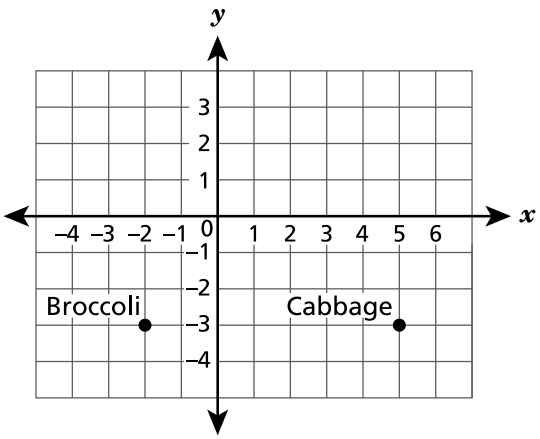
***Answer*** _____ feet

***GO ON***

**44** **This question is worth 2 credits.**

Paige uses the coordinate plane shown below to represent the locations of the vegetable patches in her garden. Each unit on the coordinate plane represents 1 foot.

**PAIGE'S GARDEN**




What is the shortest distance, in feet, from the cabbage patch to the broccoli patch? Be sure to include the coordinates that represent the locations of both vegetable patches in your answer.

***Explain how you determined your answer.***

**45** **This question is worth 2 credits.**

A recipe requires a ratio of 2 cups of sesame seeds to 5 cups of pretzels. Using this ratio, how many cups of pretzels are needed when 3 cups of sesame seeds are used?

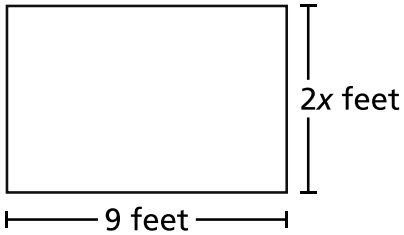
***Show your work.***

***Answer*** _____ cups of pretzels

***GO ON***

**46** **This question is worth 3 credits.**

The figure below shows the dimensions of a rug shaped like a rectangle.




The area of the rug is 54 square feet. Write and solve an equation to determine the value of $x$. Be sure to use the unknown, $x$, in your equation.

***Show your work.***

***Answer*** $x =$ _____

A company buys 7 of these rugs for $784. Write and solve an equation to determine the price, $p$, of each rug. Be sure to use the unknown, $p$, in your equation.

***Show your work.***

***Answer*** $ _____

**STOP**