

Student Name: \_\_\_\_\_

# Ohio's Achievement Tests



## Mathematics

Large Print  
Half-Length Practice Test

# M

## Mathematics

### Directions:

Today you will be taking the Ohio Grade 7 Mathematics Practice Test. Three different kinds of questions appear on this test: multiple choice, short answer and extended response.

There are several important things to remember:

- Read each question carefully. Think about what is being asked. Look carefully at graphs or diagrams because they will help you understand the question.
- You may use the blank areas of your test booklet to solve problems.
- For short-answer and extended-response questions, write your answers neatly and clearly in the space provided.
- Short-answer questions are worth two points. Extended-response questions are worth four points. Point values are printed near each question in your test booklet. The amount of space provided for your answers is the same for two- and four-point questions.

- For multiple-choice questions, circle the letter of the answer choice that is correct. Mark only one choice for each question. If you change an answer, make sure that you erase your old answer completely.
- Do not spend too much time on one question. Go on to the next question and return to the question skipped after answering the remaining questions.
- Check over your work when you are finished.

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## Mathematics

1. Teri is simplifying the expression  $6 - 2(3 + 5)^2$ .

Which computation should Teri do first?

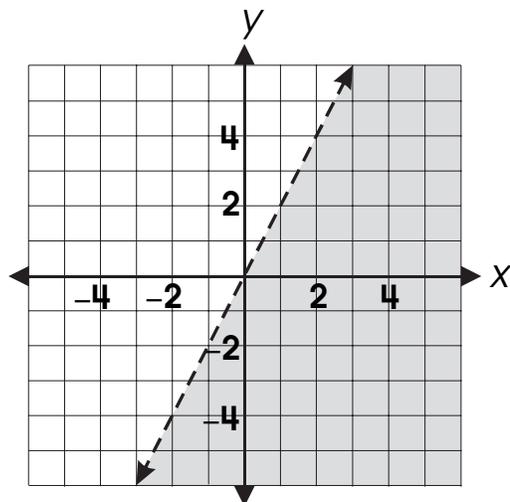
- A. subtract 2 from 6
- B. multiply 2 by 3
- C. add 3 and 5
- D. multiply 5 times 5



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2. The graph of  $y < 2x$  is shown.



Which ordered pair is a solution to this inequality?

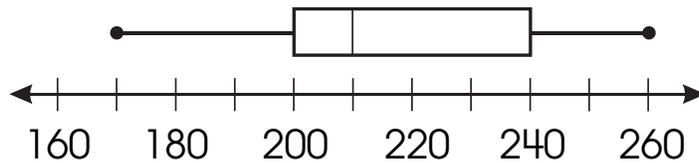
- A.  $(-2, 4)$
- B.  $(0, -2)$
- C.  $(1, 2)$
- D.  $(1, 4)$

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## Mathematics

3. The box-and-whisker plot shown represents the weights, in pounds, of players on a football team.

**Players' Weights**



What is the median weight of the football players?

- A. 200 pounds
- B. 210 pounds
- C. 220 pounds
- D. 240 pounds

4. Tasha needs to measure 1.4 liters of liquid for an experiment.

How many milliliters of liquid will Tasha need?

- A. 14 mL
- B. 140 mL
- C. 1,400 mL
- D. 14,000 mL



# M

## Mathematics

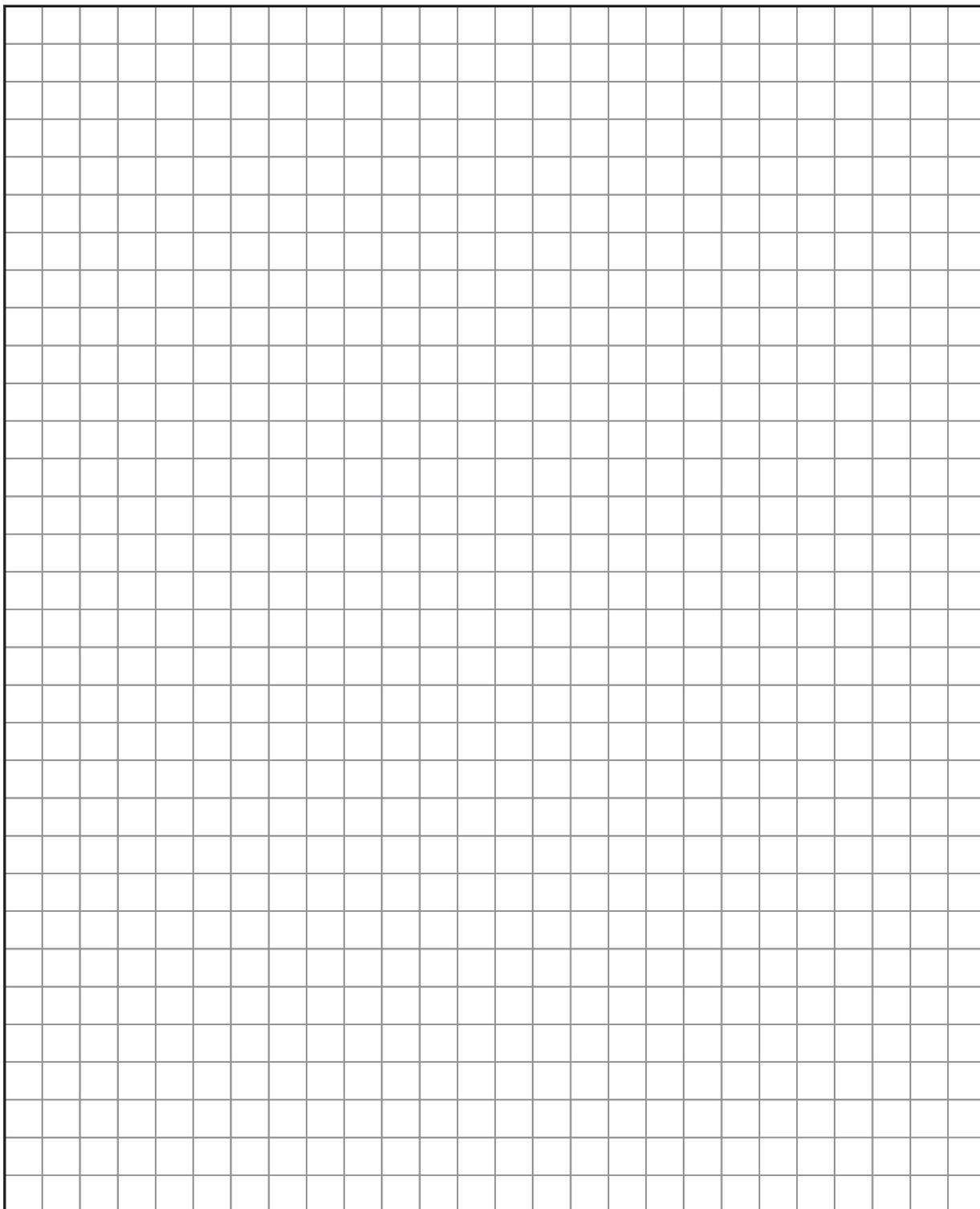
5. Joyce claims that  $8 + (-2)$  is the same as  $8 - 2$ .

Explain or show whether Joyce's reasoning is correct and justify your response using pictures or words.  
(2 points)



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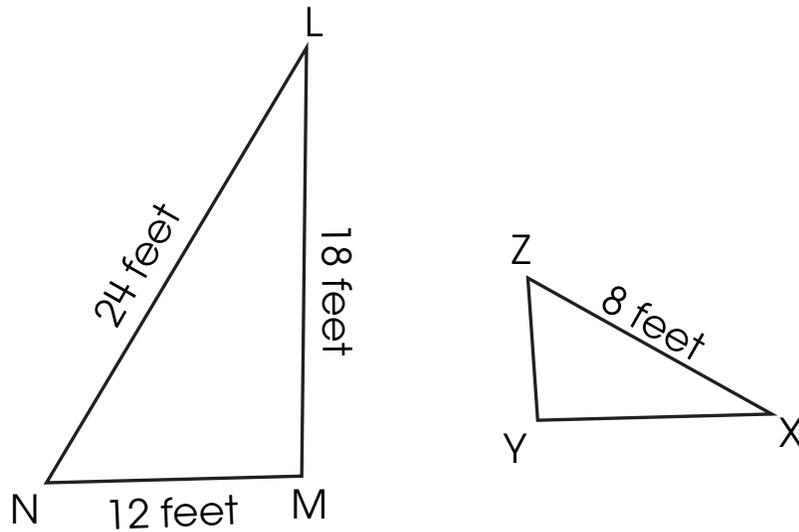




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## Mathematics

6. Triangle LMN is similar to triangle XYZ.



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

- A. 2 feet
- B. 3 feet
- C. 4 feet
- D. 6 feet

7. The table shows the total balance in four people's savings accounts at the end of each month.

**Account Balance (\$)**

| Person  | Jan | Feb | Mar | Apr | May | Jun |
|---------|-----|-----|-----|-----|-----|-----|
| Julie   | 50  | 65  | 80  | 105 | 120 | 135 |
| Stuart  | 70  | 80  | 90  | 100 | 110 | 120 |
| Sarah   | 100 | 120 | 140 | 160 | 180 | 220 |
| Michael | 90  | 100 | 110 | 130 | 150 | 180 |

In which person's account did the balance show a constant rate of increase over the six-month period?

- A. Julie
- B. Stuart
- C. Sarah
- D. Michael



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8. The drama teacher is making costumes for the school play. Each costume requires  $1\frac{3}{4}$  yards of material and  $\frac{2}{3}$  of a yard of ribbon. The material costs \$2.99 per yard and the ribbon costs 59¢ per yard.

What is the approximate cost of each costume?

- A. \$2.40
- B. \$5.65
- C. \$9.00
- D. \$10.80



9. Two number cubes, each with sides numbered 1 through 6, are rolled at the same time.

What is the probability of rolling a number greater than 4 on both number cubes?

A.  $\frac{1}{36}$

B.  $\frac{1}{9}$

C.  $\frac{1}{3}$

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



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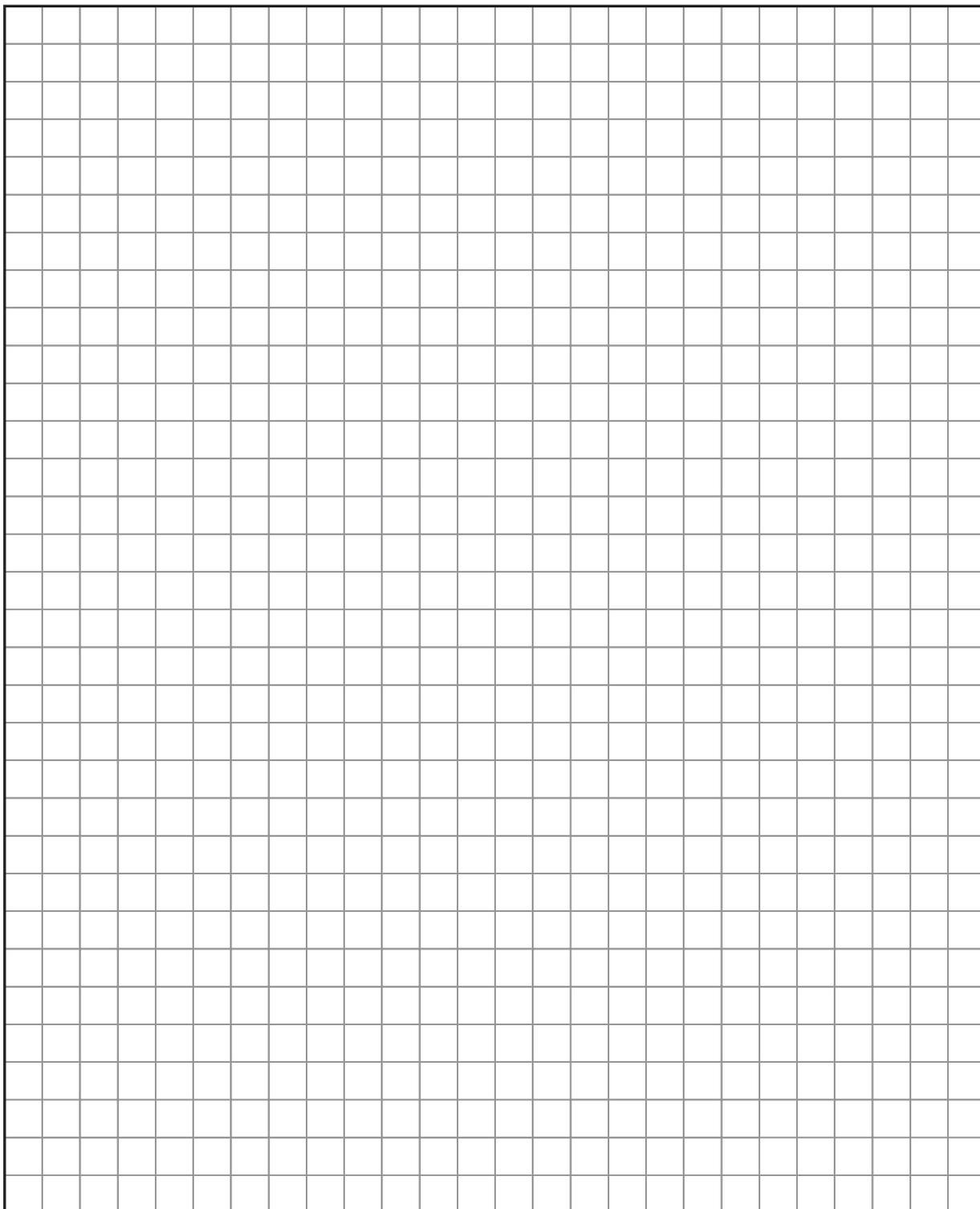
## Mathematics

10. During her summer vacation, Rachel mows lawns. Her lawn mower cuts a path 2 feet wide, and she moves forward at an average speed of 180 feet per minute. Rachel is mowing a rectangular section of lawn that measures 120 feet long and 80 feet wide.

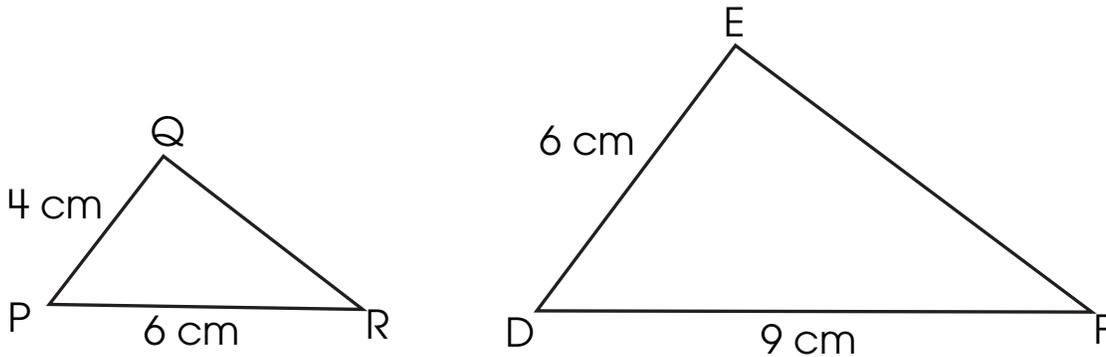
Make a reasonable estimate for how long it will take her to mow this section of lawn. Draw a sketch of the lawn to explain how you made your estimate.

Rachel started mowing the lawn at 3:00 p.m. After 10 minutes of mowing she increased her speed to 200 feet per minute. Approximately what time will Rachel finish mowing the lawn? Show your work or explain your answer.  
(4 points)





11. Triangle PQR is similar to triangle DEF as shown.



Which describes the relationship between the corresponding sides of the two triangles?

A.  $\frac{PQ}{DE} = \frac{4}{6}$

B.  $\frac{PQ}{DE} = \frac{6}{4}$

C.  $\frac{PQ}{EF} = \frac{4}{9}$

D.  $\frac{PR}{DE} = \frac{6}{6}$

12. The Amazon basin has received 23 inches of rain so far this year. This amount is 25% of the average yearly rainfall.

What is the average yearly rainfall in the Amazon basin?

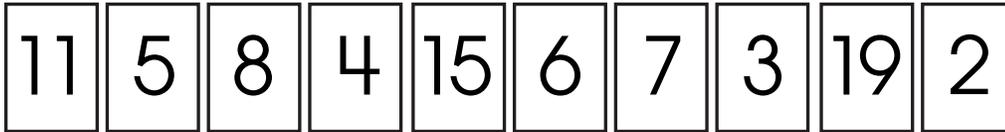
- A. 46 inches
- B. 48 inches
- C. 69 inches
- D. 92 inches



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## Mathematics

13. Kendra put the numbered tiles in a bag.



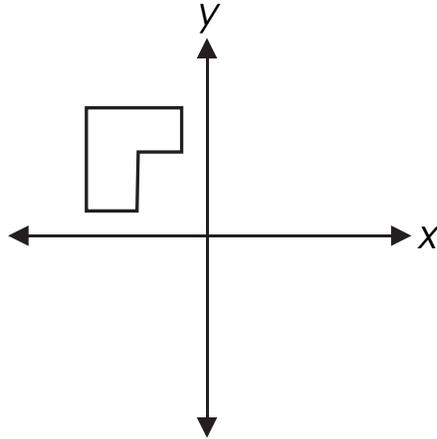
She selects one tile at random and replaces it.

If she makes 100 selections, what is a reasonable prediction of the number of tiles with a two-digit number she will select?

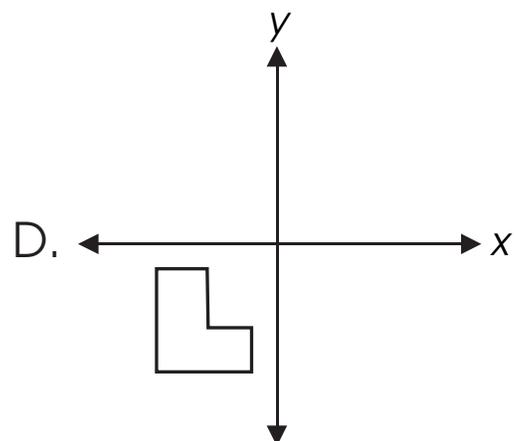
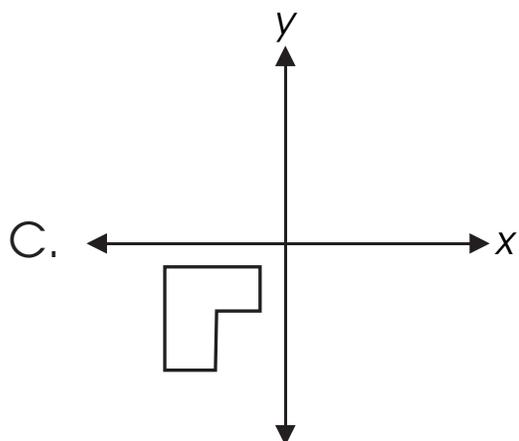
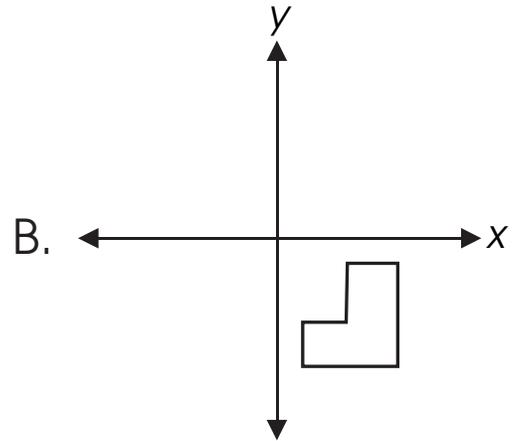
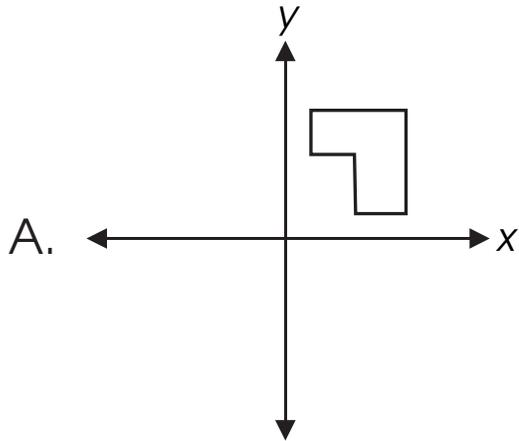
- A. 10
- B. 20
- C. 30
- D. 40



14. Yolanda drew this figure on a coordinate plane.



Which graph shows this figure reflected across the  $x$ -axis?



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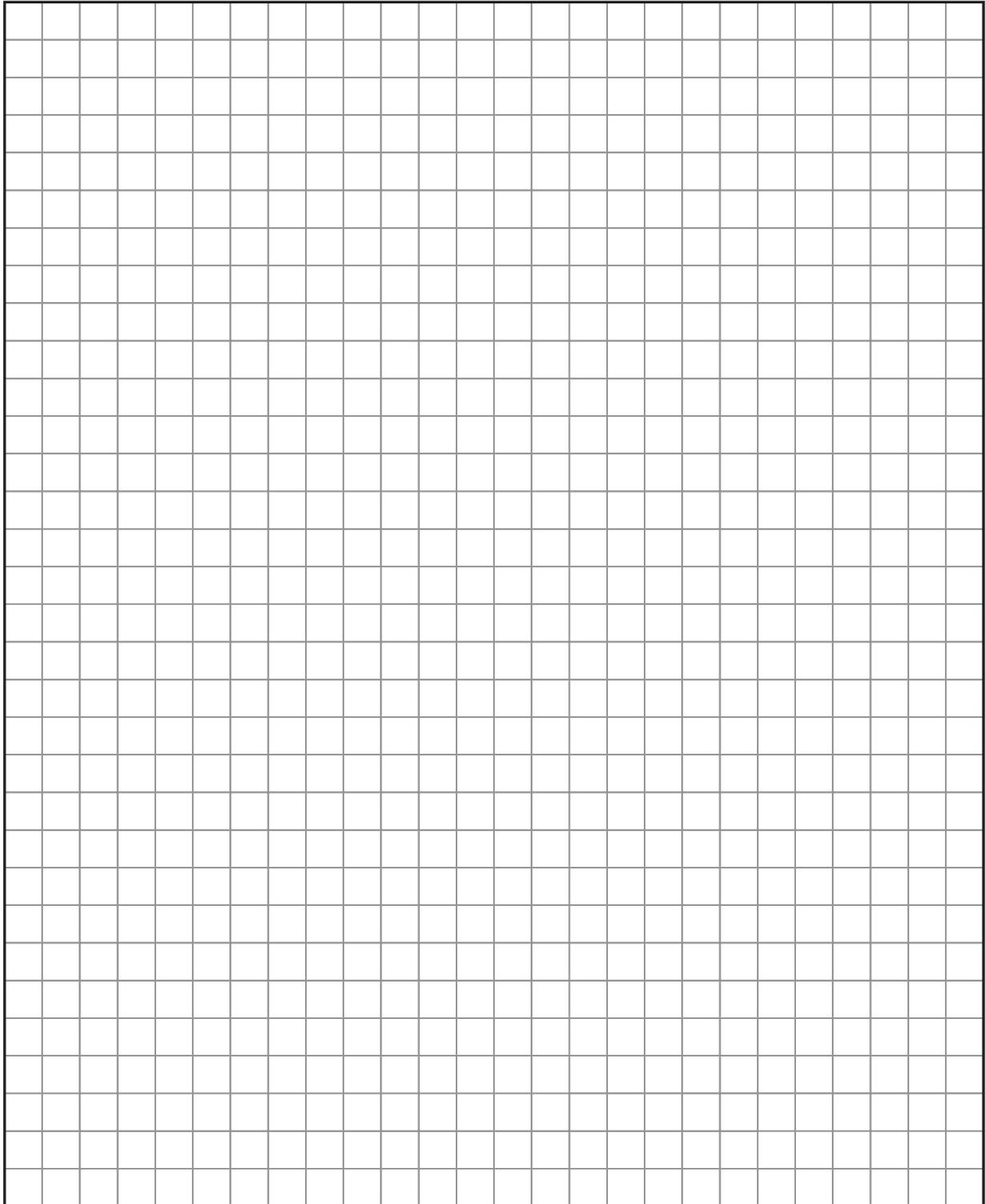
## Mathematics

15. An input/output table is shown.

| Input | Output |
|-------|--------|
| 1     | 2      |
| 2     | 5      |
| 3     | 10     |
| 4     | 17     |
| 5     | ?      |

Describe the rule that relates the output to the input. Then use your rule to find the output for an input value of 5. (2 points)





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## Mathematics

16. Which expression is equivalent to  $4 \cdot c \cdot c + 5 + c$ ?

A.  $7c + 5$

B.  $9c + c^2$

C.  $20 + c^2 + c$

D.  $4c^2 + c + 5$

17. The base of a cylinder has a radius of 5 inches.

What additional measurement is needed to find the volume of this cylinder?

A. circumference

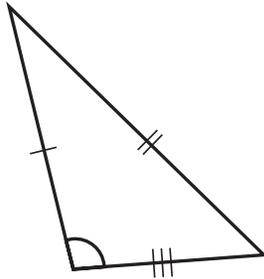
B. diameter

C. height

D. weight

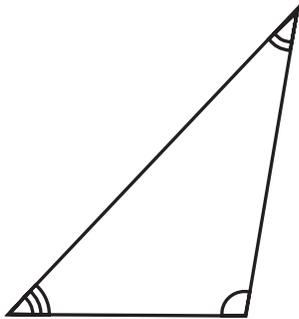


18. A triangle is shown.

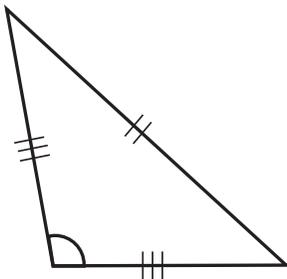


Which triangle is congruent to this triangle?

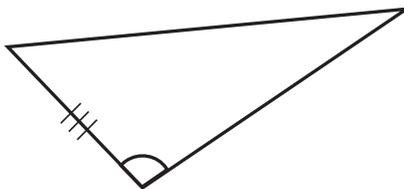
A.



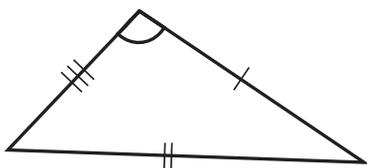
B.



C.



D.



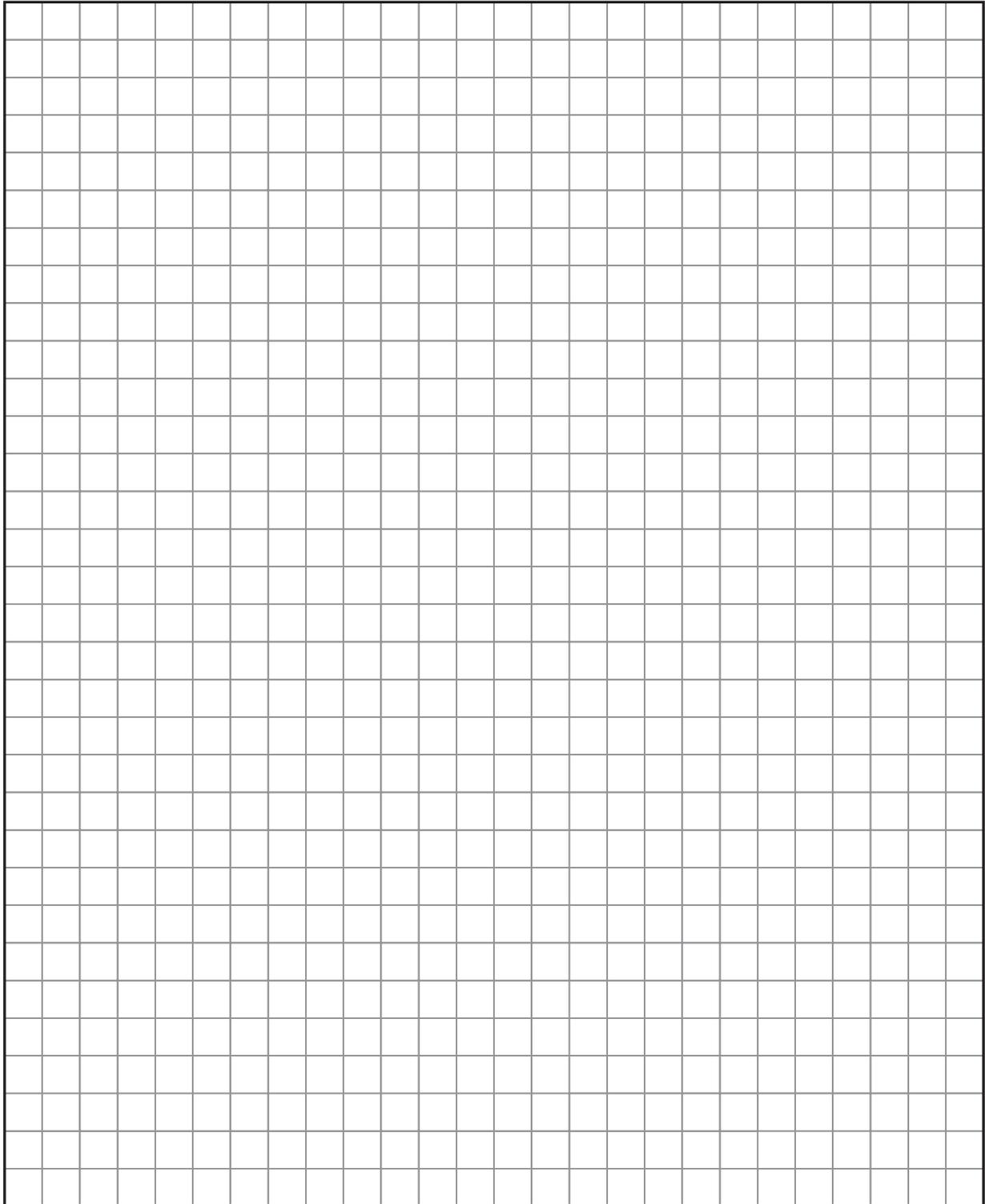
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## Mathematics

19. The nine employees of the Ellington Dance Studio each earn \$600 per week. A new employee is hired who earns \$1500 per week.

Describe how the new employee's earnings will affect the mean and median earnings of Ellington Studio's employees. Use mathematics to support your answer. (2 points)

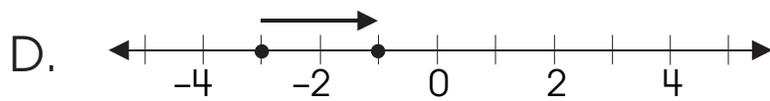
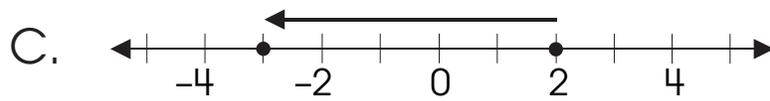
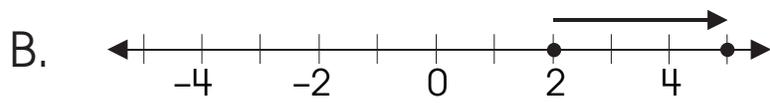
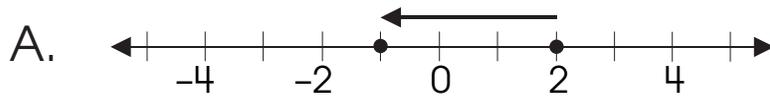




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## Mathematics

20. Which number line models  $2 - (-3)$ ?



21. Nadia draws a triangle with a right angle and at least two congruent sides. She claims that her triangle is equilateral.

Why is Nadia's triangle **not** equilateral?

- A. Equilateral triangles have  $60^\circ$  angles.
- B. Equilateral triangles have no congruent sides.
- C. Equilateral triangles have two  $90^\circ$  angles.
- D. Equilateral triangles have 60-inch sides.



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