

## Mathematics, Grade 8

- 17 Corrine and her brother Jerome have the same birthday.

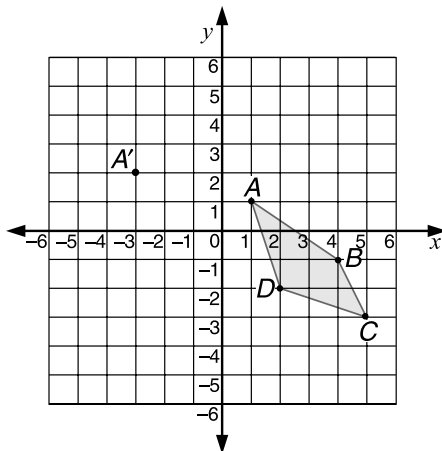
When Corrine was 8 years old, Jerome was 2.

Which equation shows the relationship between Corrine's age,  $C$ , and Jerome's age,  $J$ , at all times during their lives?

- A.  $C = 4J$
- B.  $J = 4C$
- C.  $J = 6 + C$
- D.  $C = 6 + J$

Reporting Category for Item 17: *Patterns, Relations, and Algebra* (p. 286)

Use the graph below to answer question 18.



- 18 If Figure  $ABCD$  is translated so that the image of  $A$  is  $A'$  at  $(-3, 2)$ , then the coordinates of the image of point  $B$  will be

- A.  $(0, 0)$ .
- B.  $(-1, 4)$ .
- C.  $(-2, -1)$ .
- D.  $(-3, 1)$ .

Reporting Category for Item 18: *Geometry* (p. 287)

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- 19 In John's homeroom,  $\frac{1}{3}$  of the students walk to school and  $\frac{1}{4}$  come by car. The remaining 15 come by school bus. How many students are in his homeroom?
- A. 48
  - B. 24
  - C. 36
  - D. 21

*Reporting Category for Item 19: Patterns, Relations, and Algebra (p. 286)*

- 20 The first eight positions in a pattern are shown below.

N, S, E, W, N, S, E, W, . . .

If this pattern continues, which letter would be found at the 103rd position?

- A. E
- B. S
- C. N
- D. W

*Reporting Category for Item 20: Patterns, Relations, and Algebra (p. 286)*