

## Mathematics, Grade 8

- 17 Latoya and Keith dropped a ball from various heights and measured the height of the first bounce. They recorded their data in the chart below.

Height from which ball was dropped ( $d$ )	40 in.	60 in.	50 in.	20 in.
Height of first bounce ( $b$ )	19 in.	30 in.	27 in.	11 in.

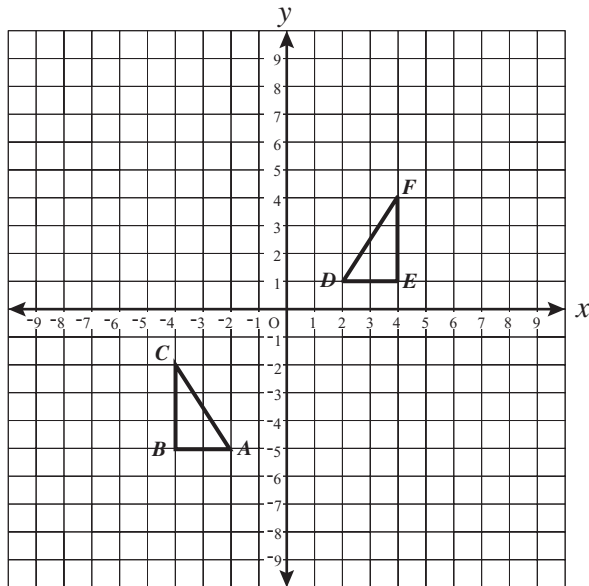
Which equation **best** shows the relationship between the height from which the ball was dropped and the height of the ball's first bounce?

- A.  $b = d - 20$
- B.  $b = 2d$
- C.  $b = d + 20$
- D.  $b = \frac{1}{2}d$

Reporting Category for Item 17: *Patterns, Relations, and Algebra*

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- 18  $\triangle ABC$  and  $\triangle DEF$  are shown on the grid below.



Which of the following transformations will map  $\triangle ABC$  onto  $\triangle DEF$ ?

- A. Reflect  $\triangle ABC$  over the  $y$ -axis and shift up 6 spaces.
- B. Reflect  $\triangle ABC$  over the  $x$ -axis and shift up 6 spaces.
- C. Reflect  $\triangle ABC$  over the  $y$ -axis and shift down 6 spaces.
- D. Reflect  $\triangle ABC$  over the  $y$ -axis, reflect over the  $x$ -axis, and shift down 4 spaces.

Reporting Category for Item 18: **Geometry**

