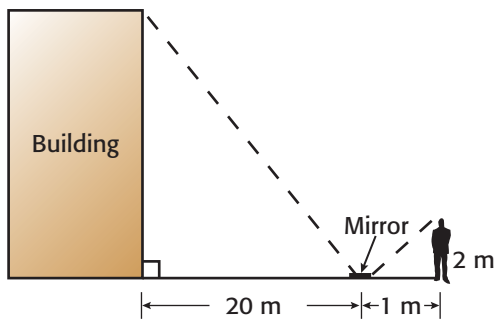


27


3178320

Jonah places a mirror on the ground 20 meters away from the base of a building so that he can see the reflection of the top of the building as shown below.



Not to scale

Jonah stands 1 meter away from the mirror and his eyes are 2 meters from the ground. Which is closest to the height of the building if the smaller triangle is similar to the larger triangle?

-  **A** 40 m  
**B** 21 m  
**C** 19 m  
**D** 10 m

60

3174522

During a hot-air balloon event, a hot-air balloon 30 yards above the ground rose at a rate of 10 yards per minute. At the same time, another hot-air balloon 150 yards above the ground descended toward the ground at a rate of 20 yards per minute.

- A. In your answer document, write an equation that could be used to determine  $h$ , the height of the first hot-air balloon as it rises above the ground in  $m$  minutes.
- B. Write an equation that could be used to determine  $k$ , the height of the second hot-air balloon as it descends towards the ground in  $m$  minutes.
- C. How long will it take for the hot-air balloons to be at the same height? In your answer document, use words, numbers, or diagrams to justify your answer.