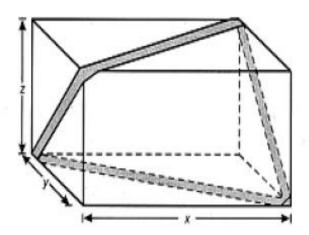
Use the diagram below to answer the question that follows.



A gift box has dimensions x by y by z. A decorative ribbon is wrapped across the diagonals of the box as shown above. Which of the following expressions represents the approximate total length of the ribbon?

A.
$$2(\sqrt{xy} + \sqrt{yz})$$

B.
$$2(\sqrt{xy} + \sqrt{yz} + \sqrt{zx})$$

C.
$$2(\sqrt{x^2+y^2}+\sqrt{y^2+z^2})$$

D.
$$2(\sqrt{x^2+y^2}+\sqrt{y^2+z^2}+\sqrt{z^2+x^2})$$