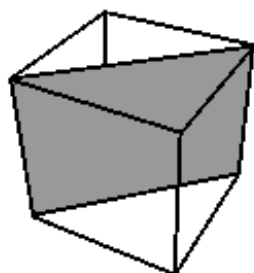




18. A solid cube of side 2 cm is cut into two triangular prisms by a plane passing through four vertices, as shown. What is the total surface area of these two prisms?

A $8(3 + \sqrt{2})$ B $2(8 + \sqrt{2})$ C $8(3 + 2\sqrt{2})$
D $16(3 + \sqrt{2})$ E $8\sqrt{2}$



-
18. A Let x be the length of the shaded rectangle.
By Pythagoras' Theorem, $x^2 = 2^2 + 2^2$, hence $x = 2\sqrt{2}$.
The total surface area of the two prisms equals the surface area of the solid cube plus twice the surface area of that shaded rectangle, that is $6 \times 2 \times 2 + 2 \times 2 \times 2\sqrt{2} = 24 + 8\sqrt{2} = 8(3 + \sqrt{2})$.