GRADE 8 MATH · CLASSWORK · ADVANCED

Apply the Pythagorean Theorem to Triangles in Three Dimensions

SCORE / 25

01 Part A · Practice

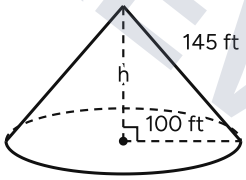
Find a right triangle inside the solid; for a box diagonal use two steps: base diagonal, then d^2 = (base diagonal)^2 + h^2.

EXAMPLE

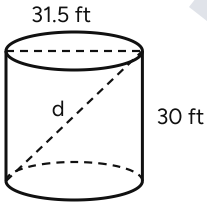
Find the diagonal of a 3 × 4 × 12 **in. box.**

1. Base diagonal: $3^2 + 4^2 = 25$, so it is 5.
2. Box diagonal: $5^2 + 12^2 = 25 + 144 = 169$.
3. $d = \sqrt{169} = 13$ in.

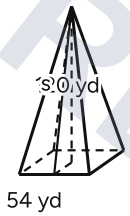
1 ●○○ Find the height *h* of the cone.



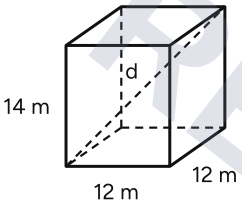
2 ●○○ Find the length *d* of the dashed segment inside the cylinder.



3 ●○○ Find the slant height *s* of the square pyramid.



4 ●○○ Find the length *d* of the diagonal of the box.



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Preview - the full worksheet and its answer key are at primeworksheet.com