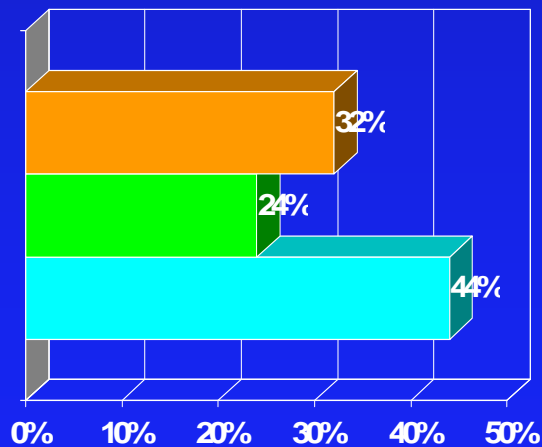


# Tight Fit Preflight

An aluminum plate has a circular hole cut in it. An aluminum ball (solid sphere) has exactly the same diameter as the hole when both are at room temperature, and hence can just barely be pushed through it. If both the plate and the ball are now heated up to a few hundred degrees Celsius, how will the ball and the hole fit ?

- A. The ball won't fit through the hole any more
- B. The ball will fit more easily through the hole
- C. Same as at room temperature ← **CORRECT**



Both the ball and the plate will expand when heated, so the diameter of the ball will increase, while the diameter of the hole will decrease, as the aluminum plate has expanded, and the ball will not fit through the hole.

Both are made of the same material so heating it up will mean the objects will expand at the same rate.

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