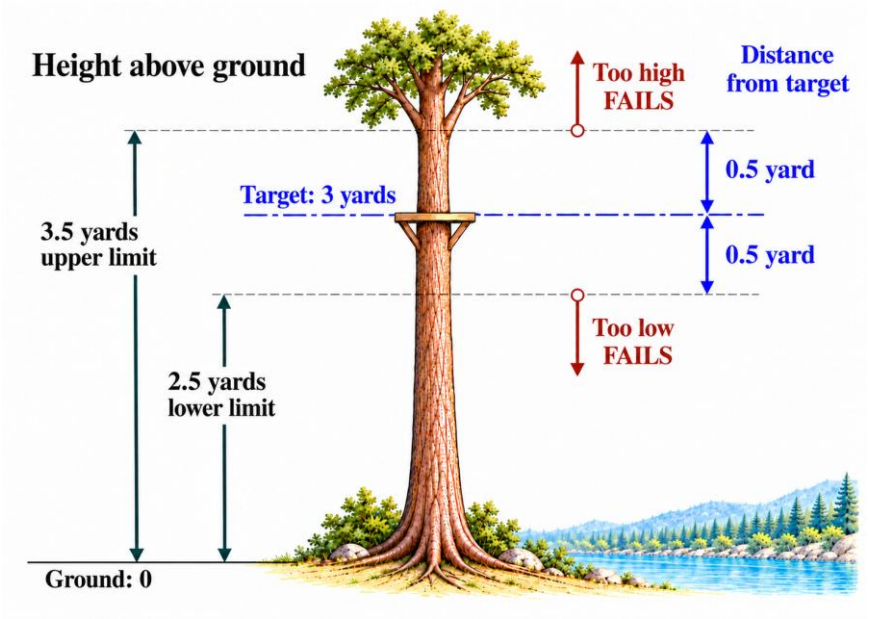
Topic 26 • ELO C1 • Unacceptable heights • v0.1

# Writing and solving an absolute value inequality that models a real-world situation and interpreting the solution

Teresa is inspecting a zipline at an adventure park. For safety reasons, the top platform must be 3 yards high, plus or minus 0.5 yards, to pass inspection.

**Start with the 3-yard target** Drawing not to scale




Heights below 2.5 or above 3.5 yards fail inspection.
Heights of exactly 2.5 or 3.5 yards still pass.

**(a) Write an absolute value inequality**

Let x be the platform-top height above ground, in yards.
Circle one form and fill its boxes for heights that fail inspection.

○ $\left|\square - \square\right| > \square$

○ $\left|\square + \square\right| > \square$

○ $\left|\square - \square\right| \leq \square$

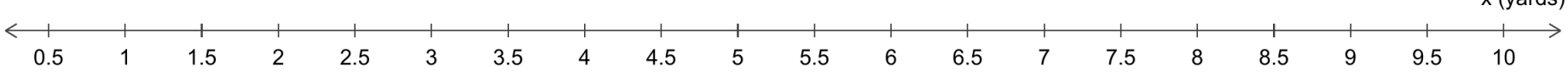
○ $\left|\square + \square\right| \leq \square$

**(b) Solve the inequality from part (a)**

Show your steps. Write your solution below.

Solution:

**(c) Graph the solution from part (b) on the number line below.**




**(d) Fill in the blanks.** Use: less than • at most • greater than • at least

The zipline will fail inspection if the top platform is ____ ____ yards high, or ____ ____ yards high.

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