

NICET TEST QUESTION
EXPLANATION AND METHODOLOGY

WORK ELEMENT: Advanced Hydraulics

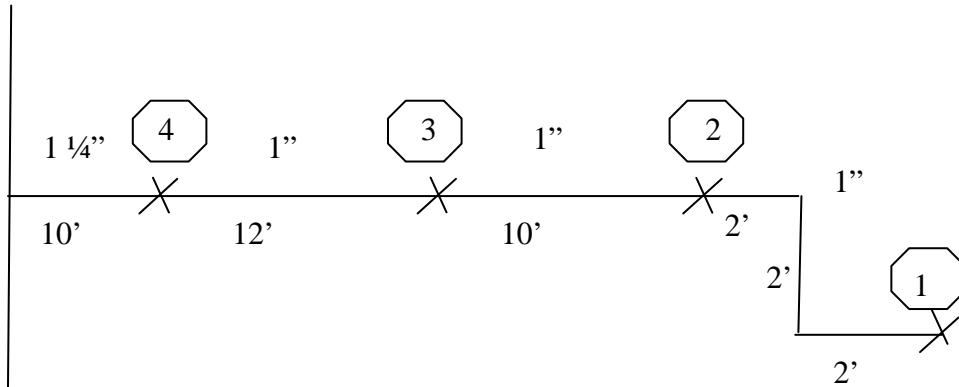
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Given the information in 001-0507 Diagram, and using the velocity pressure method of hydraulic calculation, what is the minimum required flow at sprinkler number ②, if the density/area covered by sprinklers is 1,500 sq. ft.?



CORRECT ANSWER: 26.0 gpm

All pipe is schedule 40, black steel

Wet system

Hazard Classification: OH 2

Standard Spray Sprinklers : K= 5.6

Coverage for each sprinkler: 130 sq. ft.

EXPLANATION

The purpose of the question is to challenge the person to read beyond what is expected. The diagram, information on the sketch and work element description would lead one to expect to do a hydraulic calculation involving velocity pressure. This question is intended to test the students ability to think “outside of the box” and read the complete question and investigate the sketch.

METHODOLOGY

In reality the question is straight forward, requiring a SIMPLE look-up in NFPA 13. The description of the sketch gives all the data necessary. The correct look-up is paragraph 11.2.3.1.1 in NFPA 13-2007. The density for each sprinkler at 1,500 sq. ft. is .2 gpm/sq.ft. Multiply 0.2 times the area covered per sprinkler and get 26.0 gpm.